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U.S. Department of the Interior
Bureau of Land Management

Roseburg District Office
777 N.W. Garden Valley Blvd.
Roseburg, Oregon 97470

February 1991

# Summary of the Analysis of the Management Situation

## Roseburg District Office
## Resource Management Plan

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

**BLM-OR-PT-91-10-1792**

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

ROSEBURG DISTRICT OFFICE
777 NW Garden Valley Boulevard
Roseburg, Oregon 97470

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

February 1991

Dear Concerned Citizen:

As a continuing part of BLM's Resource Management Planning (RMP) process we are enclosing the following material for your information and review. More specifically, this booklet contains a summary of the analysis of the management situation (AMS) for the resource management plan/environmental impact statement (RMP/EIS) we are preparing. The AMS pulls together important information about existing resource conditions, uses and demands, management activities, natural relationships and management opportunities. It provides the baseline for subsequent steps in the planning process, such as design of alternatives and analysis of environmental consequences. The AMS also provides most of the data that will be summarized in the "affected environment" chapter of the (RMP/EIS). This AMS Summary highlights AMS information. The maps included in it are not detailed due to limitations of scale. More detailed maps and the entire AMS are available for review in the Roseburg District office.

Your comments on the information in this AMS Summary or the complete AMS will help us verify its accuracy. If you think we have overlooked or incorrectly described any important information about BLM resources relevant to development of the plan, please let us know.

The Timber Resources section in this document is incomplete. The omitted information will be sent out in a supplemental mailer in early 1991 *only to those who request it.* The supplement will include calculations for the highest potential sustained yearly timber sale volume, economic efficiency analyses for several silvicultural practices, acreage summaries for each silvicultural practice used to determine annual sustained yield volume, and a summary of sensitivity analyses that will depict the effect that various management practices and/or constraints would have on sustained yield harvest levels.

In addition to comments on the AMS, we are also interested in your suggestions on criteria for formulation of the preferred alternative. At the back of this booklet, in Appendix 3, State Director guidance sets forth goals, objectives and criteria for five "common" alternatives we and the other western Oregon districts propose to analyze in each of our RMP/EIS's. We will also analyze a no action (no change) alternative and a yet to be selected preferred alternative which may combine elements from several of these alternatives. If one of the alternatives outlined already fits your objective for a preferred alternative, please let us know. Or you may wish instead to suggest a new preferred alternative blending elements of the common alternatives, continuation of specific parts of current management direction, or implementation of specific management opportunities identified in the AMS Summary or AMS itself. Feel free to specify other management opportunities you believe are relevant and are not identified in the AMS Summary or AMS.

The BLM must choose a preferred alternative which complies with legal requirements applicable to management of the lands it administers. Therefore, in presenting your suggestions for preferred alternative criteria, it would be helpful if you would relate how your suggested criteria would achieve legally required BLM objectives. For most BLM-administered lands in western Oregon, general management objectives are contained primarily in the O&C Act and the Federal Land Policy and Management Act (FLPMA).

A worksheet for your use in commenting on the AMS and/or providing suggestions about the preferred alternative is inserted in the middle of this booklet. It is intended to organize comments in a consistent format and improve efficiency in their use by BLM.

Please send your comments to the Roseburg District Office (whether you use the insert or not) by March 22, 1991, so we can consider them as we move ahead with our planning effort. After reviewing comments, we will revise the AMS as appropriate, finish formulating alternatives, analyze their effects and then select a preferred alternative. The Draft RMP/EIS reflecting these revisions and steps will be issued for public comment around the end of 1991.

For those who wish to discuss the information in this booklet or the proposed plan alternatives, we have scheduled the following informal open house:

Tuesday, March 5, 1991
Roseburg District Office
1-4 and 7-9 pm

BLM staff will be available at the open house to answer questions and assist you in the preparation of comments.

Thanks for your help with this part of the planning effort. We look forward to your continuing interest and participation.

Sincerely yours,

James A. Moorhouse
District Manager

U.S. Department of the Interior

Bureau of Land Management

Roseburg District
February 1991

# Summary of the Analysis of the Management Situation

for the

## Roseburg District

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# Introduction

This summary of the Analysis of the Management Situation (AMS) summarizes important information about existing resource conditions, uses, and demands, as well as management activities identified in the AMS. It provides the baseline for subsequent steps in the planning process, such as the design of alternatives and analysis of environmental consequences. It also summarizes AMS sections on substantial opportunities for maintaining or enhancing resources BLM manages and quantifies data where available information permits.

Preparation of the AMS involved the use of automated resource data contained in the western Oregon digital data base (WODDB) and supporting Geographic Information System (GIS) technology.

**Note: Throughout the document there are minor discrepencies in acreage between some of the tables. This is a result of rounding and the GIS system used to compile information. The differences are generally inconsequential, involving less than 1 percent (%) change.**

# The Planning Area

The Roseburg resource management plan/environmental impact statement (RMP/EIS) will analyze impacts associated with management of 423,928 acres of public land and 1,717 acres of subsurface mineral estate where the Bureau of Land Management (BLM) is the administering agency. This land is located in Douglas, Lane, and Jackson counties in western Oregon as shown in Table 1.

The general location of the planning area is noted by Map 1. Map 2 shows general land status within the planning area, and delineates the resource area and master unit boundaries.

Portions of the Umpqua National Forest comprise the other major federal lands within the planning area.

# Review Of Existing Decisions

Existing decisions and information in related environmental documents have been reviewed to determine which remain valid and may be used for continued implementation through the 1990s. This review followed the requirements of BLM Manual 1618.2.

Not included in the review were existing right-of-way agreements, leases, permits, etc., which constitute valid existing rights through the 1990s.

Table 2 summarizes decisions which we have determined may be carried forward for continued implementation through the 1990s without further environmental analysis. These decisions will be common to all alternatives, and will be restated or summarized to incorporate them into the RMP.

Table 3 summarizes decisions which, although determined to be valid for continued implementation through the 1990s, have not been addressed in an EIS or fully supported in terms of analysis. These valid decisions will also be common to all alternatives, but they will be analyzed in the environmental consequences section of the EIS. Any existing decisions not included in Tables 2 and 3 will be replaced by new decisions in the RMP.

# Air Resources

Congress passed the Clean Air Act in 1967 and amendments to the Act in 1972, 1977, and 1990. This law gives the State responsibility for administration and enforcement of air quality standards along with visibility standards in Class I areas through the State Implementation Plan (SIP). (Class I areas are special areas protected for their air quality related values during the period of high recreational use; specifically, Crater Lake National Park and certain wilderness areas.) The SIP also specifies a 22% reduction in emissions (compared with 1982-1984 emissions) by the end of the year 2001, with a review in 1990 to determine whether or not "reasonable progress" has been made. The State Visibility Protection Plan, adopted in 1986, substantially constrains slash burning from July 4 through Labor Day, to reduce the frequency of visibility impairment in Class I areas.

The Oregon Smoke Management Plan, which is companion to the SIP, classified certain areas as "designated areas" and "smoke sensitive areas". The current management plan requires that prescribed burning (which is primarily slash burning) be done only when atmospheric conditions prevent smoke from deteriorating air quality of these areas.

Map 3 shows "designated areas". These are Class I areas (wilderness areas over 10,000 acres), and Class II areas with potential of becoming Class I areas that also have the potential of being affected by the District's prescribed burning activities. Non-attainment areas (areas not in compliance with air

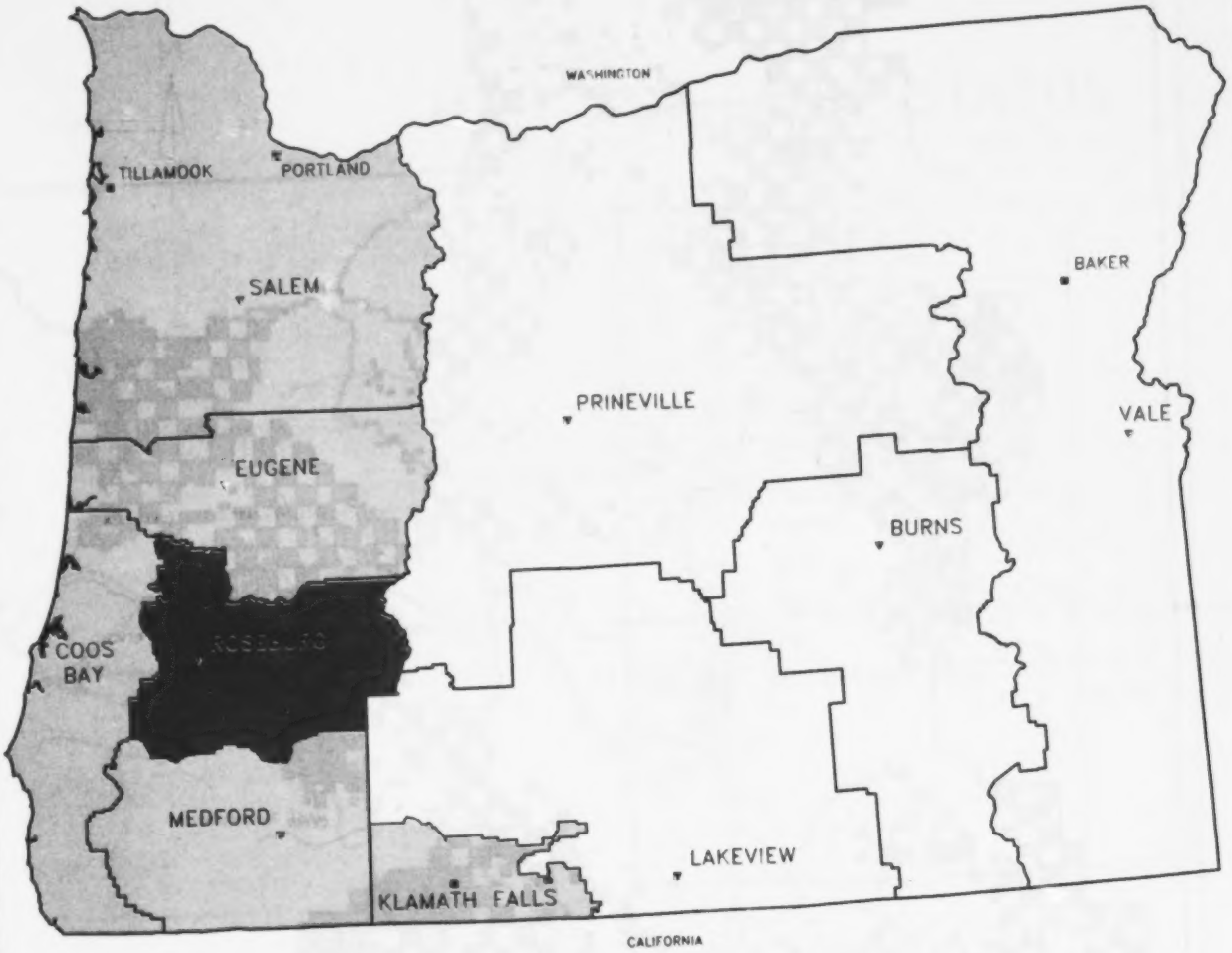
**Table 1. BLM-Administered Acreage in the Roseburg District by County**

| County | Public Land Administered by BLM (acres) O&C[1] | CBWR[2] | Public Domain | Total | Non-Federal Surface/ Federal Mineral Estate (acres) |
|---|---|---|---|---|---|
| Lane | 280 | 0 | 0 | 280 | 0 |
| Jackson | 320 | 0 | 0 | 320 | 0 |
| Douglas | 390,978 | 13,924 | 18,427 | 423,328 | 1,717 |
| **Total** | **391,578** | **13,924** | **18,427** | **423,928** | **1,717** |

[1]Public lands granted to the Oregon and California Railroad Company and subsequently reveested to the United States.
[2]Coos Bay Wagon Road Lands - Public lands granted to the Southern Oregon Company and subsequently reconveyed to the United States.

**Table 2. Existing Decisions to be Carried Forward for Continued Implementation without Further Analysis.**

| Decision | Acres | Rationale for Continued Management |
|---|---|---|
| 1. Manage the North Umpqua River as a Recreational River under the Wild and Scenic Rivers Act, and an Area of Critical Environmental Concern (ACEC) | 1,620 | Congressionally designated |
| 2. Manage Myrtle Island Research Natural Area, an Area of Critical Environmental Concern | 28 | Continues to fill cell in Oregon Natural Heritage Program |
| 3. Prepare and maintain forest plantations through an integrated vegetation management program | Varies annually | Approved record of decision |
| 4. Control noxious weeds through an integrated pest management approach | Varies annually | Approved record of decision |




BLM State Office

BLM District Office

BLM Resource Area Office

District Boundary

Klamath Falls Planning Area Boundary

Roseburg Planning Area

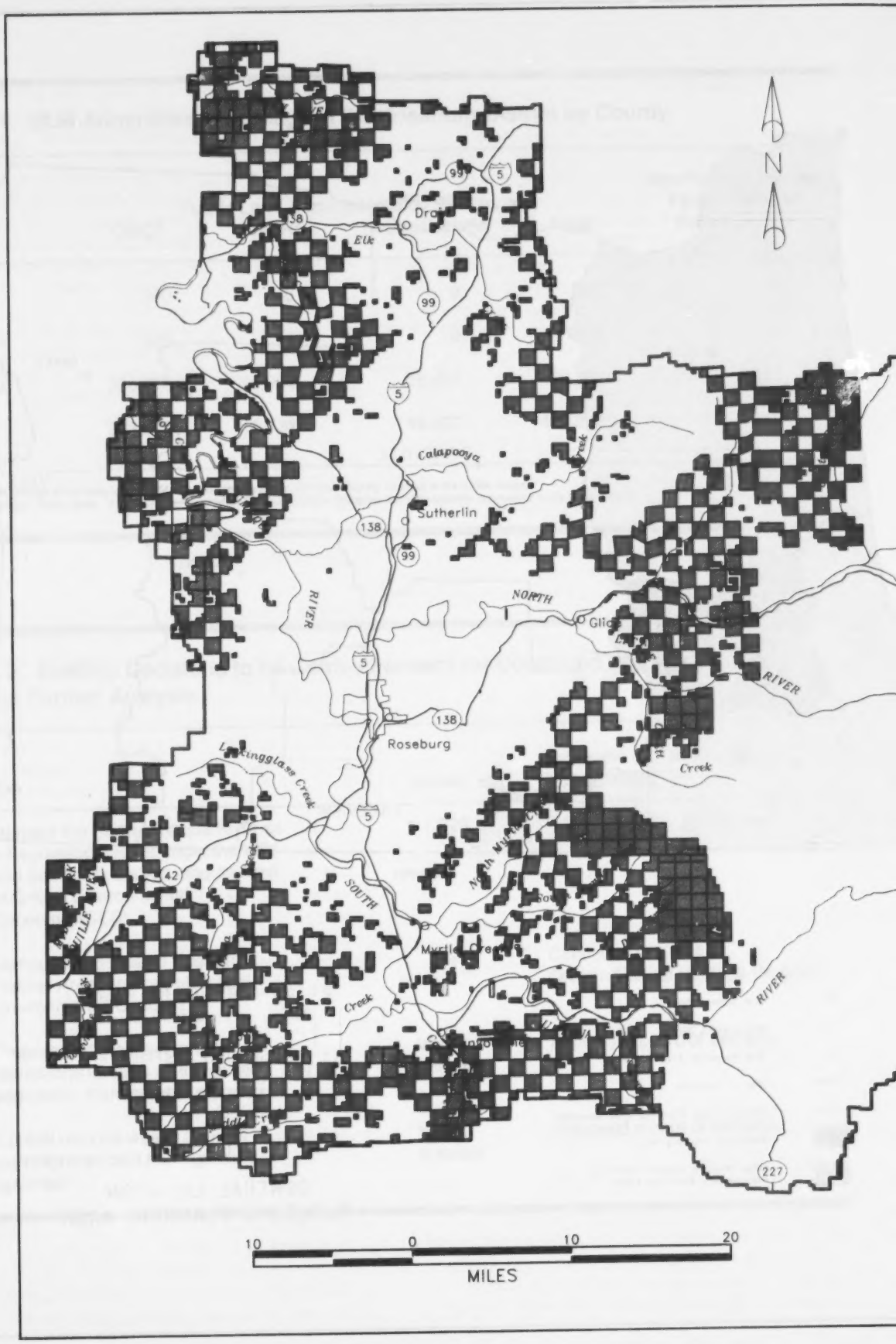
Other Western Oregon Resource Management Planning Areas

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

ROSEBURG DISTRICT

# MAP 1

## GENERAL LOCATION
## ROSEBURG PLANNING AREA

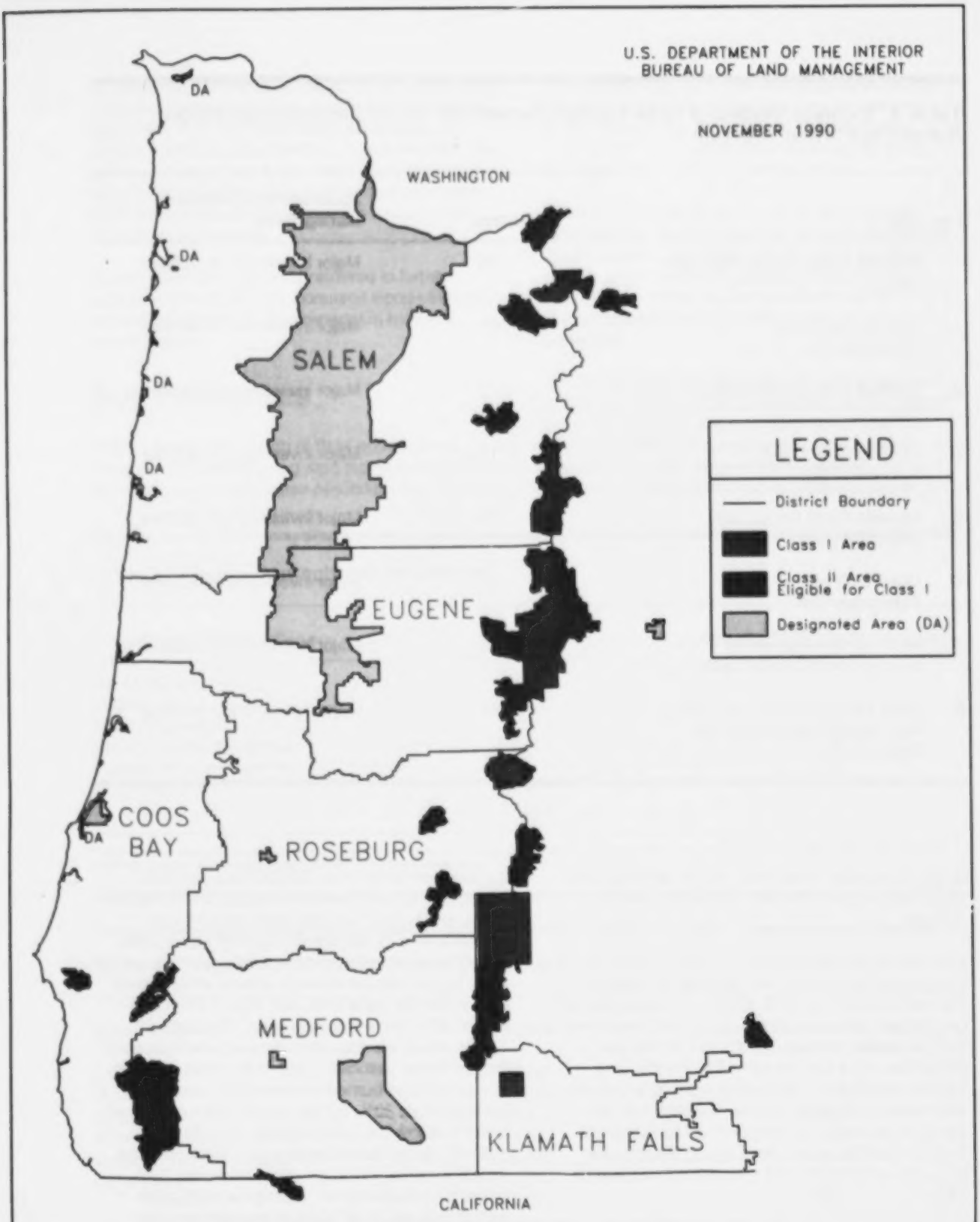

N
99
5
38
Elk
Drain
99
5
Calapooya
Creek
Sutherlin
138
99
RIVER
NORTH
Glide
5
RIVER
138
Roseburg
Lookingglass Creek
5
42
SOUTH
Creek
Myrtle Creek
RIVER
227
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY

## MAP 2: LAND STATUS

### LEGEND

- District Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- District Boundary
- Highway
- Stream
- Urban Area
- City
- BLM Managed Lands




MAP 3: SENSITIVE AIR QUALITY AREAS

**Table 3. Existing Decisions to be Carried Forward for Continued Implementation Subject to Further Analysis.**

| Decision | Acres | Rationale for Continued Management |
|---|---|---|
| 1. Operate Susan Creek Recreation Site | 78 | Major investment in facilities |
| 2. Operate Swiftwater Recreation Site | 61 | Major investment in facilities |
| 3. Operate Millpond Recreation Site | 28 | Major investment in facilities |
| 4. Operate Rock Creek Recreation Site | 15 | Major investment in facilities |
| 5. Operate Cavitt Creek Falls Recreation Site | 16 | Major investment in facilities |
| 6. Operate Tyee Recreation Site | 14 | Major investment in facilities |
| 7. Allow full development of existing communication sites | 6 | Major investment in facilities |
| 8. Allow full development of existing high voltage transmission line rights-of-way | 540 | Major investment in facilities |

quality standards) which may also be affected, are Eugene/Springfield, Grants Pass, and Medford/ Ashland.

Both the quality and quantity of smoke emissions from prescribed burning are primarily dependent on the method used, whether slash is broadcast burned or piled and burned. Emissions are also determined by tree species burned, the amount of fuel, the proportion of the fuel consumed by the fire, and weather conditions. Approval of burning is unlikely when smoke dispersal is poor. Average fuel (biomass) consumption is estimated to have declined from 30 tons per acre burned during the baseline period of 1976-1979 to 22 tons per acre burned by 1984.

Due to burning restrictions, the acreage of slash burned has generally declined in recent years. Average annual District slash consumption during the baseline period was 103,200 tons on 2,300 acres. During 1981-84 it was 51,000 tons on 1,500 acres, and during the 1985-1988 period it was 98,000 tons on 2,900 acres. The 1981-84 figures clearly show the effects of the timber recession of the early 1980s, with the average annual acres burned 32% below the base level, and tons of slash consumed 49% below the base level. The 1985-88 figures reflect the economic recovery and increased harvest levels associated with that period. Average annual acreage burned exceeded the baseline by approximately 30%, but the tons of slash consumed was 5% below the baseline level. For the period 1981-88, acres burned were nearly identical to the baseline, but tons of slash consumed were 27% below the baseline level. During the 1985-1988 period, only two BLM burns in the planning area caused smoke intrusions into designated areas.

In addition to adherence to seasonal and other timing restrictions imposed by the Oregon Smoke Management Plan, BLM has taken many other steps to reduce emissions from burning. These include mass ignition, aggressive mop-up, slash piling and wood sales for power generation, and burning only where considered necessary to reduce fire hazard and/or make planting possible.

Opportunities that can be considered to further reduce emissions include increased wood utilization and use of alternative site preparation methods where feasible.

## Soil Resources

Table 4 shows the portion of BLM-administered forest lands in the planning area that was identified in the recent timber production capability classification (TPCC) inventory as fragile non-suitable woodland. This land is considered inappropriate for planned timber harvest due to fragile soil characteristics which create uncertainty about its capability to be managed for a sustained yield of timber.

Table 5 shows the amount of BLM-administered forest land in the planning area that was identified as fragile-suitable, restricted. These areas would be subject to unacceptable soil productivity loss if managed for timber production without application of special restrictive or mitigation measures to assure protection.

Soil productivity has been affected by management activities, including road construction, timber harvest activities, slash burning and other site preparation activities, which can cause erosion and nutrient losses and reduce water holding capacity. To mitigate soil productivity losses related to timber

**Table 4. Fragile Non-suitable Woodland[1]**

| Classification of Woodland | Acres | Percent BLM Forest Land Base |
|---|---|---|
| Soil Moisture | 13,965 | 3.4 |
| Nutrient | 4,525 | 1.1 |
| Slope Gradient | 1,834 | 0.5 |
| Mass Movement Potential | 1,212 | 0.3 |
| Surface Erosion Potential | 0 | 0.0 |
| Groundwater | 433 | 0.1 |
| **Total** | **21,969** | **5.4** |

[1]These are lands where timber growing potential will be reduced due to soils having critical moisture supplying capacities, severe nutrient problems, critical slope gradients, mass movement potential, severe surface erosion potential, or high ground water levels.

**Table 5. Fragile-Suitable, Restricted Forest Land[1]**

| Classification of Forest Land | Acres | Percent BLM Forest Land Base |
|---|---|---|
| Soil Moisture | 20,090 | 4.9 |
| Nutrient | 768 | 0.2 |
| Slope Gradient | 105,577 | 25.6 |
| Mass Movement Potential | 22,584 | 5.5 |
| Surface Erosion Potential | 4,991 | 1.2 |
| Groundwater | 3,884 | 0.9 |
| **Total** | **156,894** | **38.3** |

[1]These are lands where the timber growing potential may be reduced due to the soils having critical moisture supplying capacities, severe nutrient problems, critical slope gradients, mass movement potential, severe surface erosion potential, or high ground water levels.

harvest and site preparation, the District has applied standards to limit the area of soil compaction to 10% of a harvested unit, and has employed one or more of the following practices, where appropriate:

—designation of skid trails.

—ripping of skid trails after logging.

—limiting tractor yarding to the dry season.

—requiring one-end or full log suspension when cable yarding.

—prescribed burning when the duff is moist, to achieve cool burns.

—using alternatives to broadcast burning.

—putting unsurfaced roads "to bed".

—seeding, mulching and fertilizing road cutbanks, fill slopes and landings.

—leaving large down woody debris on site.

Current management practices have not, however, entirely eliminated soil productivity losses caused by management activities. Opportunities to further reduce or mitigate those losses include: expansion of practices already employed, extending rotation ages on the poorer site classes, and artificial drainage of areas other than wetlands having imperfectly drained soils.

# Water Resources

In order to describe existing conditions, and to analyze the impacts of management, the District has been divided into analytical watersheds. These areas were selected according to topography and basin size, with logical boundaries used to break up large basins into analytical units.

Table 6 identifies the analytical watersheds in the Roseburg District, summarizing the acres, percent of BLM managed land, and miles of stream by order. Analytical watersheds are also shown on Map 4.

Community water systems drawing water from watersheds including BLM-administered lands in the planning area, are shown in Table 7 and on Map 4.

The Oregon Department of Environmental Quality (DEQ) has identified the South Umpqua River, which flows through BLM land, as water quality limited and unable to meet all beneficial uses. The total watershed is 1,800 square miles, of which 17% is BLM-administered land.

Where monitored, the Umpqua River drainage fails to meet State water quality standards for temperature. This makes activities which remove shade from streams, including timber harvesting, particularly sensitive.

Groundwater is used throughout the planning area for irrigation, domestic, and municipal use. Groundwater supplies in the Umpqua basin are highly variable and limited, but water quality is generally good, except for a few local problems with mineralization, arsenic, and pollution of shallow aquifers.

Water quality is affected by a number of management activities on BLM-administered land, including road construction, timber harvest, and slash disposal, all of which may affect stream temperature, dissolved oxygen concentrations, and chemical quality of surface water. Herbicide spraying and fertilization may also affect chemical quality of surface water.

In order to maintain and protect water quality, as required by law, the District has adpoted the following requirements for management activities:

—Protecting 18,300 acres of riparian areas along third order and larger streams.

—Protecting 10,900 acres of fragile soil areas that would cause mass soil movement or not meet reforestation standards.

—Application of best management practices (project design features and mitigative measures) on all timber sale and road construction projects, vegetation management projects, slash burning areas, and related activities.

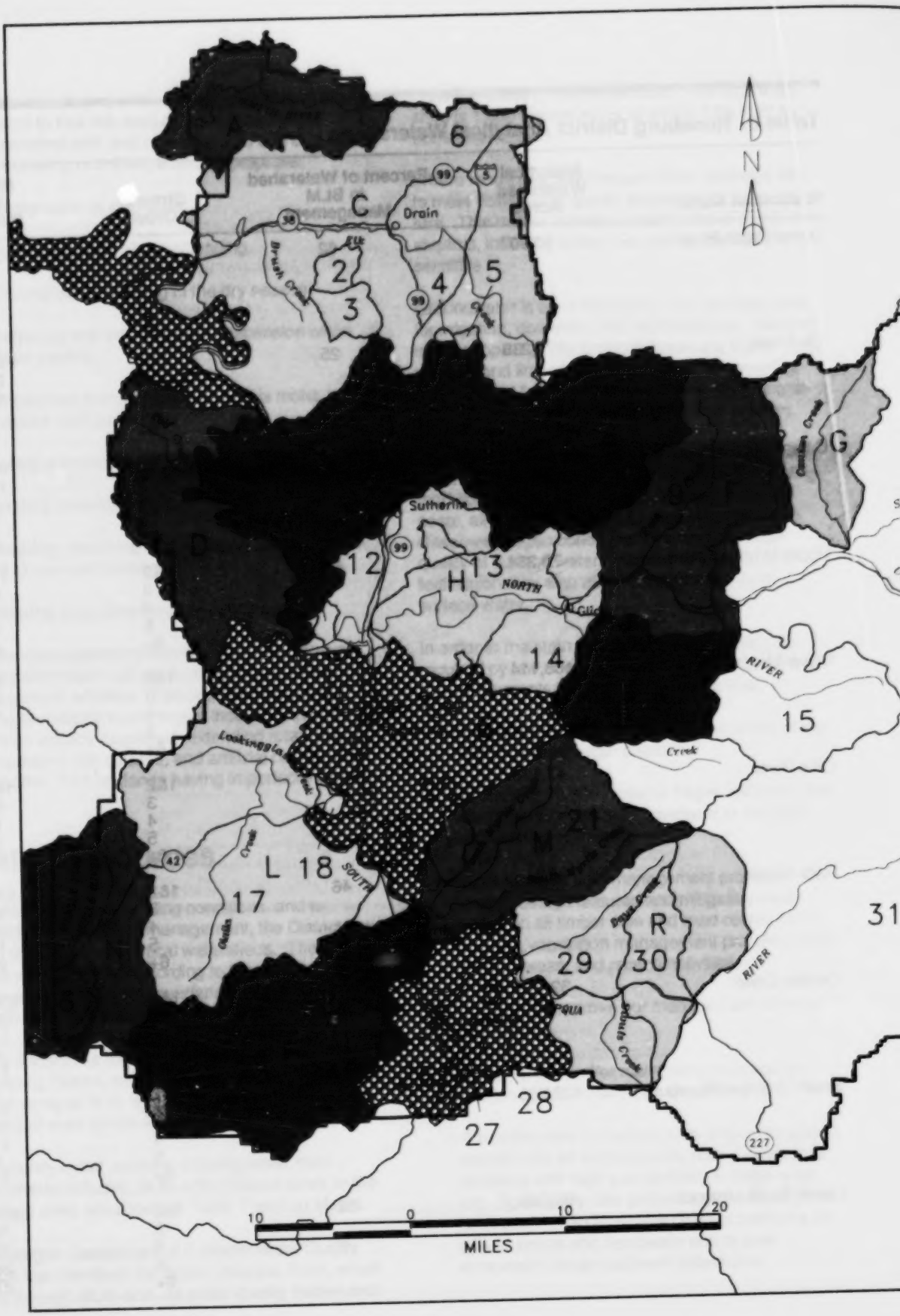
Opportunities to improve our management of water quality include:

—Establishing and/or maintaining a protective riparian buffer on all order streams.

—Providing total protection from timber harvesting activities for all hydrologically critical landscape positions with high susceptibility to mass wasting. Specifically, this protection should be given to all channel and incipient channel positions on critical slopes and headwalls and to over-steepened stream adjacent sideslopes.

## Table 6. Roseburg District Analytical Watersheds

| Watershed Name | Analytical Watershed Acres | Percent of Watershed in BLM Management | Stream Order | Miles of Stream |
|---|---|---|---|---|
| Upper Smith River | 50,907 | 62 | 1&2 | 309 |
| | | | 3 | 65 |
| | | | 4 | 31 |
| | | | 5 | 27 |
| | | | 6+ | 23 |
| Elk Creek | 224,236 | 25 | 1&2 | 1,240 |
| | | | 3 | 246 |
| | | | 4 | 126 |
| | | | 5 | 71 |
| | | | 6+ | 74 |
| Calapooya | 183,661 | 8 | 1&2 | 414 |
| | | | 3 | 153 |
| | | | 4 | 76 |
| | | | 5 | 38 |
| | | | 6+ | 26 |
| Upper Umpqua Frontal | 79,384 | 46 | 1&2 | 176 |
| | | | 3 | 85 |
| | | | 4 | 40 |
| | | | 5 | 22 |
| | | | 6+ | 26 |
| Lower North Umpqua | 108,114 | 4 | 1&2 | 96 |
| | | | 3 | 40 |
| | | | 4 | 15 |
| | | | 5 | 8 |
| | | | 6+ | 1 |
| Little River | 47,113 | 37 | 1&2 | 144 |
| | | | 3 | 42 |
| | | | 4 | 16 |
| | | | 5 | 11 |
| | | | 6+ | 19 |
| Rock Creek | 88,925 | 46 | 1&2 | 239 |
| | | | 3 | 97 |
| | | | 4 | 36 |
| | | | 5 | 12 |
| | | | 6+ | 24 |
| Canton Creek | 39,477 | 45 | 1&2 | 235 |
| | | | 3 | 35 |
| | | | 4 | 16 |
| | | | 5 | 8 |
| | | | 6+ | 11 |
| South Umpqua/Roseburg | 122,868 | 4 | 1&2 | 95 |
| | | | 3 | 42 |
| | | | 4 | 21 |
| | | | 5 | 5 |
| | | | 6+ | 12 |
| Lower South Umpqua | 65,740 | 38 | 1&2 | 321 |
| | | | 3 | 76 |
| | | | 4 | 30 |
| | | | 5 | 26 |
| | | | 6+ | 27 |


N
A
6
C
Drain
2
3
4
5
G
D
12
H
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NORTH
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RIVER
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L
18
SOUTH
17
M
21
R
29
30
31
28
27
227
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY
# MAP 4: ANALYTICAL AND COMMUNITY WATERSHEDS

## LEGEND

- District Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- District Boundary
- Highway
- Stream
- Urban Area
- City
- Analytical Watershed
- Community Watershed

### Analytical and Community Watersheds Key

A = Upper Smith River
B = Middle Umpqua Frontal
C = Elk Creek-Roseburg
D = Upper Umpqua
E = Calapooya
F = Rock Creek
G = Canton Creek
H = Lower North Umpqua

1 = Upper Smith River
2 = Drain-Bear Creek
3 = Drain-Billy Creek
4 = Yoncalla-Wilson Creek
5 = Adams Creek
6 = Elkton-Umpqua
7 = Roseburg-Oakland Col
8 = Sutherlin-Calapooya
9 = Glide-North Umpqua
10 = North Umpqua-Susan Creek
11 = Umpqua Basin-North Umpqua
12 = Ridgewood-North Umpqua
13 = Sutherlin-Cooper Creek
14 = Roseburg/Winchester
15 = Wolfcreek-Jobcorps L
16 = Coquille River

J = South Umpqua-Roseburg
K = Little River
L = Olalla-Lookingglass
M = Myrtle Creek
N = Middle Fork Coquille
P = Cow Creek
Q = Lower South Umpqua
R = Upper South Umpqua

17 = Winston-Dillard-South Umpqua
18 = Roberts Creek-South Umpqua
19 = Myrtle Creek Springs
20 = Clarks Branch-Bilger
21 = Clarks Branch-South Umpqua
22 = Myrtle Creek-South Umpqua
23 = Riddle-Cow Creek
24 = Riddle-Russell Creek
25 = Lawson Acres-Cow Creek
26 = Canyonville-W.F. Canyon Creek
27 = Canyonville-Canyon Creek
28 = Canyonville-O'Shea Creek
29 = Tri City-South Umpqua
30 = Milo Academy-South Umpqua
31 = Tiller Ranger Station
32 = Medford-Rogue River

**Table 6. Roseburg District Analytical Watersheds**

| Watershed Name | Analytical Watershed Acres | Percent of Watershed in BLM Management | Stream Order | Miles of Stream |
|---|---|---|---|---|
| Olalla/Lookinglass | 134,934 | 24 | 1&2 | 433 |
| | | | 3 | 130 |
| | | | 4 | 69 |
| | | | 5 | 42 |
| | | | 6+ | 29 |
| Myrtle Creek | 76,230 | 41 | 1&2 | 279 |
| | | | 3 | 87 |
| | | | 4 | 50 |
| | | | 5 | 27 |
| | | | 6+ | 26 |
| Upper South Umpqua | 101,693 | 43 | 1&2 | 465 |
| | | | 3 | 114 |
| | | | 4 | 57 |
| | | | 5 | 31 |
| | | | 6+ | 25 |
| Cow Creek | 116,250 | 36 | 1&2 | 694 |
| | | | 3 | 140 |
| | | | 4 | 66 |
| | | | 5 | 36 |
| | | | 6+ | 43 |

—Minimizing the total miles of road being constructed through the steeper topography (70% slopes) by increasing, where practical, the utilization of long-span skyline, helicopter, and balloon logging systems, which require substantially less area in roads than conventional systems.

—Using cumulative watershed effects analysis (CWEA) to predict the impacts of various management practices and defer harvest of timber where CWEA shows a high likelihood of damage to stream channels.

# Vegetation

Current management objectives and priorities address vegetation in terms of upland vegetation, aquatic vegetation occurring in wetland and riparian habitats, unique ecosystems, priority plants, and noxious weeds. Upland vegetation within the planning area has been divided into five plant groups. Table 8 shows the acres of these five plant groups by seral stage.

A total of 18,300 acres has been withdrawn from the commercial forest land (CFL) base to protect riparian habitat along third order and greater streams. An additional 85 acres has been withdrawn for special area management to protect a wetland habitat. Unique ecosystems (serpentine barrens, meadows, bogs, rock cliffs, and talus slopes) are managed as priority plant and animal habitat and as special areas and are discussed within the context of these topics in this summary.

Noxious weeds that are known to occur on BLM administered lands in the planning area include rush skeletonweed, tansy ragwort, gorse, Canada thistle, scotch broom, and St. John's wort.

Priority plant species known or suspected to occur on BLM administered lands in the planning area are presented in Table 9. Over 60,000 acres of the District have been surveyed for priority plants since 1980. Eight species have been documented at 25 locations on 216 acres (indicated by asterisk in Table 9).

## Table 7. Municipal/Community Water Systems

| Community System Name | Source Watershed | Population Served (Number) | Status of Filter | Watershed Area (Ac) BLM | Other | Total |
|---|---|---|---|---|---|---|
| Drain, City of | Bear Creek, Allen Creek | 1,200 | Yes | 1,423 | 2,973 | 4,396 |
| Drain, City of | Billy Creek | 1,200 | Yes | 2,695 | 4,613 | 7,308 |
| Canyonville, City of | O'Shea Creek | 1,100 | Yes | 2,289 | 2,866 | 5,155 |
| Canyonville, City of | West Fork Canyon Creek | 1,100 | Yes | 5,645 | 7,508 | 13,154 |
| Canyonville, City of | Canyon Creek | 1,100 | Yes | 6,569 | 2,722 | 9,291 |
| Clarks Branch Water Assoc. | South Umpqua River | 145 | Yes | 29,935 | 50,600 | 80,019 |
| Clarks Branch Water Assoc. | Bilger Creek | 145 | Yes | 285 | 553 | 838 |
| Elkton, City of | Umpqua River | 180 | Yes | 96,848 | 340,456 | 437,304 |
| Glide Water Assoc. | North Umpqua River | 1,000 | Yes | 38,777 | 54,303 | 93,080 |
| Lawson Acres Water Assoc. | Cow Creek | 55 | Yes | 2,241 | 4,550 | 6,791 |
| Milo Academy | South Umpqua River, Lick Creek | 310 | Yes | 10,396 | 12,490 | 22,886 |
| Myrtle Creek, City of | South Umpqua River | 3,245 | Yes | 250 | 3,480 | 3,700 |
| Myrtle Creek, City of | Springbrook (5 Springs) | 3,245 | Yes | 235 | 1,101 | 1,336 |
| Riddle, City of | Russell Creek | 75 | No | 1,791 | 1,592 | 3,383 |
| Riddle, City of | Cow Creek | 1,145 | Yes | 36,591 | 57,038 | 93,629 |
| Ridgewood Water District | North Umpqua River | 80 | Yes | 1,278 | 25,951 | 27,235 |
| Roberts Creek Water District | South Umpqua River | 5,500 | Yes | 0 | 4,691 | 4,691 |
| Roseburg, City of Winchester | North Umpqua River WTP | 24,000 | Yes | 18,363 | 108,860 | 127,223 |
| Roseburg, City of Oakland | Calapooya Creek | 6,000 | Yes | 5,213 | 61,244 | 66,457 |
| Sutherlin, City of | Calapooya Creek | 4,000 | Yes | 4,995 | 47,170 | 52,165 |
| Sutherlin, City of | Cooper Creek | 4,000 | Yes | 244 | 2,661 | 2,905 |
| Tiller Ranger Station | South Umpqua River | 100 | Yes | 10,590 | 62,742 | 73,332 |
| Tri City Water District | South Umpqua River | 3,000 | Yes | 34,160 | 67,074 | 101,234 |
| Susan Creek Village | North Umpqua River | 50 | Yes | 21,502 | 15,930 | 37,433 |
| Wolf Creek Job Corps Users | Little River | 340 | Yes | 3,046 | 12,161 | 15,207 |
| Winston Dillard Water Dist. | South Umpqua River | 4,500 | Yes | 24,707 | 108,610 | 132,717 |
| Yoncalla, City of | Adams Creek | 815 | Yes | 432 | 665 | 1,097 |
| Yoncalla, City of | Wilson Creek | 815 | Yes | 0 | 683 | 683 |
| Umpqua Basin Water Assoc. | North Umpqua River | 5,000 | Yes | 0 | 2,801 | 2,801 |

## Table 8. Acres of Major Plant Groups by Seral Stage

| Plant Group[1] | Seral Stage (Years) Early (0-10) | Mid (20-40) | Late (50-90) | Mature (100-190) | Old Growth (200+) |
|---|---|---|---|---|---|
| MC-IV-GR | 39,955 | 32,363 | 14,630 | 38,206 | 34,628 |
| MC-MB-SA | 12,231 | 5,572 | 4,420 | 6,591 | 17,138 |
| D-CE-SA | 10,389 | 6,458 | 3,756 | 10,432 | 21,768 |
| D-B-SA | 21,417 | 22,475 | 9,282 | 18,790 | 27,217 |
| D-RA-VM | 11,301 | 16,367 | 7,127 | 12,777 | 14,505 |
| **Total** | **95,293** | **83,235** | **39,215** | **86,796** | **115,256** |

[1]Plant Group: MC-IV-GR = Mixed Conifer/Interior Valley/Grass
MC-MB-SA = Mixed Conifer/Madrone-Deciduous Brush/Salal
D-CE-SA = Douglas fir/Rhododendron-Ceanothus/Salal
D-B-SA = Douglas fir/Mixed Bush/Salal
D-RA-VM = Douglas fir/Red Alder/Vine Maple

## Table 9. Priority Plant Species

| Botanical Name | Common Name | Status[1] |
|---|---|---|
| * *Allium bolanderi* | Bolander's onion | AS |
| *Arabis koehleri* var. *koehleri* | shrubby rock cress | FC |
| *Asplenium septentrionale* | grass fern | AS |
| *Aster vialis* | wayside aster | FC |
| * *Astragalus umbraticus* | woodland milkvetch | AS |
| * *Bensoniella oregana* | bensoniella | FC |
| * *Calochortus coxii* | Cox's mariposa lily | FC |
| * *Calochortus umpquaensis* | Umpqua mariposa lily | FC/SE |
| *Cypripedium fasciculatum* | clustered lady's slipper | AS |
| *Epilobium oreganum* | Oregon fireweed | BS |
| *Eschscholzia caespitosa* | gold poppy | AS |
| *Frasera umpquaensis* | Umpqua swertia | FC |
| *Fritillaria glauca* | Siskiyou fritillaria | AS |
| *Iliamna latibracteata* | California globe mallow | AS |
| *Lupinus sulphureus* var. *kincaidii* | Kincaid's lupine | FC |
| *Microcala quadrangularis* | timwort | AS |
| * *Mimulus douglasii* | Douglas' monkey flower | AS |
| * *Mimulus kelloggii* | Kellogg's monkey flower | AS |
| *Mimulus tricolor* | three colored monkey flower | AS |
| *Pellaea andromedaefolia* | coffee fern | AS |
| *Perideridia erythrorhiza* | red-root yampah | FC |
| *Perideridia howellii* | Howell's false caraway | AS |
| *Plagiobothrys hirtus* ssp. *hirtus* | rough allocarya | FC/SE |
| * *Polystichum californicum* | California sword fern | AS |
| *Sedum spathulifolium* ssp. *purdyi* | Purdy's stonecrop | AS |

[1] FC = Federal Candidate
SE = State Endangered
BS = Bureau Sensitive
AS = Assessment Species

Current management of upland vegetation is primarily for timber production and wildlife and is discussed in the timber and wildlife sections of this summary.

Federally listed and federally proposed priority plant species are managed in compliance with the Endangered Species Act and approved recovery plans. Other priority plants are managed to make their official listing unnecessary.

Proposed actions such as timber sales are surveyed to determine priority plant locations and mitigate impacts. Monitoring is conducted to determine the effectiveness of mitigation.

Current management of special areas protects them from incompatible uses.

Protection of native vegetation and associated natural values within wetlands outside withdrawn riparian and special areas are managed on a case by case basis.

Management of noxious weeds is accomplished through a multi-agency program coordinated by the Oregon Department of Agriculture. Current management is directed towards the eradication of rush skeletonweed throughout the planning area and tansy ragwort in Jackson County. The management objective for other species of noxious weeds known to occur in the planning area is to stabilize existing populations and prevent further spread. Control methods make use of all available techniques including the use of herbicides.

Management opportunities include:

—adopting ecosystem management techniques in timber sale planning such as retention of woody debris, retention of live conifer and hardwood trees, longer rotations, and wide spacing of young stands to preserve the community structure, species composition, and ecological processes of upland vegetation.

—creating a proportion and distribution of seral stages that promote biodiversity.

—restoring community structure, species composition, and ecological processes on harvested upland vegetation sites.

—using native plant species to revegetate disturbed areas and stabilize soils.

—establishing buffers of 300 to 600 feet around priority plant habitats, wetlands, and unique ecosystems to protect the plant community structure, species composition, and ecological processes within these habitats and contribute to the maintenance of biodiversity.

—maintaining water courses into and out of wetland habitats to protect the structure, composition, and ecological processes of wetland plant communities.

—restoring damaged priority plant habitats, wetlands, and unique ecosystems.

—supporting research and studies to obtain information on the abundance, distribution, taxonomy, and biological and ecological requirements of priority plant species.

—monitoring individual priority plant populations to obtain information on habitat conditions and population trends.

—developing priority plant management guides which consider abundance, distribution, biological and ecological requirements, habitat conditions, and population trends of individual species to assist in recovery or to minimize the need for future listing.

—cooperating in the development of recovery plans for state and federal listed species.

—collecting priority plant seed to be stored in nationally recognized seed banks to guard against unforeseeable losses in nature and to assist in recovery efforts.

—acquiring and/or exchanging land parcels determined necessary for the protection of priority plant species.

—maintaining existing special areas and designating new special areas to protect priority plants, wetlands, and unique ecosystems.

# Timber Resources

There are 1,668 million cubic feet (10,267 million board feet (units of solid wood, one foot square and one inch thick), Scribner short log scale) of standing volume on BLM-administered lands in the planning area which could be managed for a continuous supply of wood, according to an inventory completed in 1988. That compares to 1,609 million cubic feet (10,062 million board feet, Scribner short log scale) in the inventory completed in 1978. The age class distribution for both 1978 and 1988 inventories is shown in Table 10.

Reforestation status is shown in Table 11.

Of the newly planted areas, 62,525 acres (94%) have sufficient trees on site to meet current stocking standards. About 6% of the sites are understocked due to a variety of factors most important of which is excessive competing vegetation.

Table 12 shows timber management and forest development goals and accomplishments through September 30, 1988.

Table 13 tabulates District acres treated by practice or combination of practices according to age class.

These intensive management practices increase yield. Precommercial thinnings have been the mainstay of accomplishment due to the greater returns per investment dollar.

The volume of wood harvested from all ownerships in Douglas County totaled 5,406 million board feet (Scribner short log scale) from 1984 through 1987. Of that volume, 1,550 million came from national forest lands and 1,279 million from lands administered by BLM.

Current harvesting practices are as follows:

— Clearcutting. Stands with a minimum age of 80 years are eligible for harvest as a means of

## Table 10. Comparison of Roseburg District Inventory Data 1978 and 1988

| Age Class | GLO[1] Acres | GIS[2] Acres | Cubic Volume (Mcf) | | Board Foot Volume (MMbf) | |
|---|---|---|---|---|---|---|
| | 1978 | 1988 | 1978 | 1988 | 1978 | 1988 |
| 0 | 7,403 | 22,065 | 0 | 33 | 0 | 0 |
| 1-5 | 25,510 | 19,393 | 0 | 606 | 0 | 3 |
| 10 | 40,853 | 40,315 | 0 | 1,376 | 0 | 7 |
| 20 | 35,945 | 29,316 | 0 | 11,755 | 0 | 59 |
| 30 | 13,852 | 32,525 | 22,805 | 50,132 | 118 | 258 |
| 40 | 5,973 | 13,362 | 12,950 | 41,236 | 68 | 217 |
| 50 | 7,558 | 8,201 | 19,463 | 34,184 | 104 | 183 |
| 60 | 11,319 | 4,271 | 33,483 | 18,152 | 183 | 99 |
| 70 | 8,959 | 5,389 | 30,162 | 31,059 | 168 | 173 |
| 80 | 10,931 | 6,211 | 40,831 | 34,731 | 231 | 197 |
| 90 | 11,741 | 10,312 | 47,854 | 88,411 | 275 | 509 |
| 100 | 13,282 | 9,865 | 58,885 | 85,807 | 343 | 502 |
| 110 | 16,879 | 8,276 | 80,544 | 57,938 | 475 | 344 |
| 120 | 15,852 | 14,215 | 80,151 | 79,847 | 480 | 480 |
| 130 | 3,595 | 15,744 | 19,293 | 107,540 | 116 | 658 |
| 140 | 3,595 | 5,677 | 20,222 | 35,537 | 123 | 218 |
| 150 | 10,545 | 4,969 | 62,067 | 37,537 | 377 | 234 |
| 160 | 5,615 | 2,760 | 34,170 | 21,103 | 215 | 131 |
| 170 | 6,197 | 5,788 | 38,565 | 41,472 | 237 | 281 |
| 180 | 21,947 | 3,532 | 144,301 | 23,804 | 937 | 151 |
| 190 | 8,305 | 5,101 | 52,991 | 27,430 | 327 | 168 |
| 200+ | 105,214 | 103,763 | 810,335 | 836,071 | 5,285 | 5,396 |
| **Total** | **391,070** | **371,048** | **1,609,072** | **1,668,744** | **10,062** | **10,267** |

[1]URA 4 Land Base, GLO acreage estimates with deductions for congressional designations, TPCC withdrawals, and a reduction for roads.
[2]Forest Operations Inventory (FOI) GIS acreage estimates with deductions for non-forest, roads, suitable woodlands and non-suitable woodlands.

maintaining a high sustained yield harvest level.

-- Salvage logging of dead and dying trees.

— Commercial thinning.

The 1988 timber production capability classification (TPCC) inventory is summarized in Table 14. Suitable woodlands and suitable commercial forest lands are two categories of land jointly defined as those lands capable of sustaining a long-term yield of forest products without loss of site productivity. Suitable commercial forest lands are capable of yielding at least 20 cubic feet per acre per year of commercial timber and are capable of prompt reforestation, while suitable woodlands include other non-fragile land which produce either commercial or non-commercial species (such as hardwoods). The suitable woodland and suitable commercial forest land categories provide opportunities for sustained harvest of forest products, with the exception of lands included in Congressionally-designated areas or developed recreation sites.

Table 15 summarizes, for comparison, the 1977 TPCC.

There are basic differences between the two inventories that make direct comparisons difficult. The 1977 and 1988 TPCC partitioned the land base differently. The 1988 TPCC does not contain categories incorporated in the 1977 version including: limited management, adverse location, or statutory withdrawal classifications. These lands were reclassified

## Table 11. Stocking Classifications for Units with Birthdates between January 1, 1971 and October 1, 1988[1]

| Stocking Classification | Forestable Acres | Total Acres |
|---|---|---|
| Understocked | | 4,326 |
| Unestablished | 4,150 | |
| Established | 176 | |
| Stocked | | 62,525 |
| Unestablished Minimum | 2,429 | |
| Unestablished Target | 34,773 | |
| Established Minimum | 1,129 | |
| Established Target | 24,194 | |
| Nonstocked | | 18,425[2] |
| Sold but not Cut | 7,468 | |
| Cut, needs Site Prep | 6,604 | |
| Site Prepped, needs Planting | 4,132 | |
| Other | 221 | |
| Totals | 85,276 | 85,276[2] |

[1]Based on survey data as of October 1, 1988
[2]Of the 85,276 acres considered here, 18,425 acres (22%) are classified non-stocked. The time units are placed in non-stocked status averages less than three years. During this time, units are sold, roads built, logging takes place, and site preparation is accomplished prior to planting.

in 1988, with the majority being included in the non-suitable woodland, suitable woodland, or Category II CFL classifications. There were also differences in the guidelines set out for stocking criteria and the definitions of standard silvicultural operations for making the TPCC classifications.

Based on the 1988 TPCC, assumptions about yield enhancement from forest management practices, and stream protection necessary to meet water quality standards, the highest potential sustained yearly timber sale volume will be calculated. This will be done using TRIM-PLUS for the suitable commercial forest lands and area regulation for the suitable woodlands. After the calculations are completed, a supplement to the AMS will be prepared which will display the highest potential sustained sale volume and other data dependent on TRIM-PLUS. An economic efficiency analysis will also be done for intensive management practices, once calculations for sustained yield levels are completed. In addition a number of sensitivity analyses will be completed depicting the effects of various management and economic constraints on sustained yield harvest levels.

## Table 12. Timber Management and Forest Development Goals and Accomplishments October 1, 1983 through September 30, 1988

| Practice | 1983 MFP Annual Plan Goals | Funded Annual Average | Annual Average Accomplishments |
|---|---|---|---|
| Allowable Sale Quantity (ASQ)[1] | | | |
| Million Cubic Ft. | 39.5 | 37 | 36.8 |
| Million Board Ft. | 247 | 231 | 230 |
| Harvest Acres | | | |
| Clearcut | 5,709 | 5,232 | 5,272 |
| Partial Cut | 471 | 511 | 511 |
| Site Preparation Acres | | | |
| Burning | 4,450 | 2,761 | 2,761 |
| Herbicides | 5,200 | 0 | 0 |
| Manual | 170 | 231 | 231 |
| Mechanical | 400 | 154 | 154 |
| Planting Acres (initial) | | | |
| Regular | 5,230 | 3,896 | 3,869 |
| Improved | — | 112 | 112 |
| Animal Damage Control Acres | 3,080 | 1,507 | 1,507 |
| Release & Maint. Acres (herbicides) | 4,000 | 0 | 0 |
| Release & Maint. Acres (manual) | 0 | 263 | 263 |
| Pre-commercial Thinning Acres | 4,040 | 1,656 | 1,656 |
| Fertilization Acres | 5,560 | 2,702 | 2,702 |

Note: The base level ASQ excluding intensive management practices is 209 MMBF.

## Table 13. Acres of Stand Treatment Accomplishments by Age Class As of October 1, 1988

| Age Class | Genetically Improved Stock | PCT | PCT & Fert. | Fert. & CT | PCT & CT | CT Only | Total Treatment Acres |
|---|---|---|---|---|---|---|---|
| 5 | 434 | 0 | 0 | 0 | 0 | 0 | 434 |
| 10 | 156 | 609 | 564 | 0 | 0 | 0 | 1,329 |
| 20 | 0 | 6,610 | 5,507 | 0 | 0 | 0 | 12,117 |
| 30 | 0 | 7,272 | 9,750 | 0 | 0 | 165 | 17,187 |
| 40 | 0 | 543 | 2,246 | 12 | 32 | 20 | 2,853 |
| 50 | 0 | 283 | 937 | 0 | 0 | 90 | 1,310 |
| 60 | 0 | 0 | 17 | 0 | 0 | 248 | 265 |
| 70 | 0 | 0 | 0 | 0 | 0 | 116 | 116 |
| 80+ | 0 | 0 | 0 | 0 | 0 | 643 | 643 |
| **Total** | **590** | **15,317** | **19,021** | **12** | **32** | **1,282** | **36,254** |

PCT = Precommercial thinning  Fert = Fertilization  CT = Commercial thinning

## Table 14. TPCC Summary as of October 1, 1988

| Land Classification | Acres[1] O&C | PD[2] | CBWR | Total |
|---|---|---|---|---|
| **Non-Forest** | | | | |
| Rockland | 3,301 | 682 | 681 | 4,664 |
| Brush | 78 | 0 | 0 | 78 |
| Grass | 315 | 73 | 0 | 388 |
| Water | 996 | 68 | 1 | 1,065 |
| Highway | 14,884 | 422 | 566 | 15,872 |
| Utility | 598 | 11 | 25 | 634 |
| Agriculture | 0 | 0 | 0 | 0 |
| Non-Forest Unclassified | 321 | 119 | 0 | 440 |
| Subtotal | 20,493 | 1,375 | 1,273 | 23,141 |
| **Non-Suitable Woodland** | | | | |
| Fragile Non-Suitable | 19,625 | 1,742 | 626 | 21,993 |
| **Suitable Woodland** | | | | |
| Low Site | 37 | 0 | 0 | 37 |
| Non Commercial Species | 148 | 58 | 12 | 218 |
| Non-Suitable CFL | 2,695 | 101 | 0 | 2,796 |
| Subtotal | 2,880 | 159 | 12 | 3,051 |
| **Suitable Commercial Forest Land** | | | | |
| Non-Problem | 482 | 14 | 1,964 | 2,460 |
| Fragile Suitable | 1,610 | 160 | 991 | 2,761 |
| Cat. I - Reforestation Problem | 197,441 | 7,588 | 6,329 | 211,358 |
| Cat. II - Reforestation Problem | 0 | 0 | 0 | 0 |
| Combination Reforestation and Fragile Problem | 144,702 | 7,132 | 2,794 | 154,628 |
| Subtotal | 344,235 | 14,894 | 12,078 | 371,207 |
| **Total** | **387,233** | **18,170** | **13,989** | **419,392** |

[1]Acreage estimates derived from GIS acres in the TPCC database.
[2]Acquired Lands are included with the PD totals.

**Table 15. District TPCC Summary of 1977**

| Commercial Forest Land | Acres |
|---|---|
| **High Intensity Management** | |
| No Problem | 238,980 |
| Fragile Restricted | 40,703 |
| Fragile/Reforestation Restricted | 6,272 |
| Reforestation Restricted | 85,450 |
| Subtotal | 371,405 |
| **Limited Management (Final Harvest Only)** | |
| Fragile Restricted | 750 |
| Fragile/Reforestation Restricted | 1,746 |
| Reforestation Restricted | 16,280 |
| Subtotal | 18,776 |
| **Withdrawn** | |
| Fragile Withdrawn | 1,888 |
| Fragile/Reforestation Withdrawn | 718 |
| Reforestation Withdrawn | 8,537 |
| Adverse Location | 187 |
| Subtotal | 11,330 |
| **Non-Forest** | |
| Roads, R/W corridors, Rec. Sites, rock outcrops, grass, agriculture | 20,135 |
| **Non-commercial Forest** | |
| Non-commercial tree species | 2,285 |
| **Roseburg District Total[1]** | **423,931** |

[1]Not corrected to GLO acres

This sustained yield level will be based on the following assumptions:

- Funding will be available for all practices.
- Emphasis on the timber management system and regeneration system that will maximize timber production.
- Efficiency of field operations and assurance of prompt reforestation will be considered in selecting the size of timber harvest units.
- Use of all available tools (including herbicides) for site preparation, seedling protection, plantation maintenance and release, with emphasis on those tools that have proven to be most effective in assuring seedling survival and growth.
- Reforestation of harvested lands immediately after harvest with adaptable commercial species. Utilization of genetically improved stock in accordance with the Western Oregon Tree Improvement Plan.
- Management of tree seed orchards to produce adequate supplies of improved seed.
- Reforestation of root disease centers with indigenous resistant tree species.
- Initial spacing control of seedlings/saplings through planting or thinning in conjunction with the control of competing vegetation in order to maximize wood production by concentrating site resources in individual tree growth.
- Commercial thinning of present and future stands on those lands judged operable and where research indicates increased gains in timber production are likely.
- Application of fertilizer on all present and future stands where research indicates increased wood yields will result.
- Conversion to conifers of all commercial coniferous forest sites presently dominated by grass, hardwoods and brush.

A table will be provided in the AMS supplement that will show the acreage of each silvicultural practice that is implied in the calculation of the sustained yield level.

Demand for BLM timber is based primarily on a combination of three factors: the characteristics of mills in the market area and their current short-term stocks of logs and purchased, unharvested timber; western U.S. housing (including remodeling) activity; and the level of exports of non-federal logs. Timber supply studies address the possibility of a timber "supply gap" in the primary timber market area for the District. A supply gap period is generally defined

as a decade when expected harvest levels from all lands fall below recent historic levels. In this market area recent studies anticipate a gap during the _____ to _____ period[1].

Fuelwood sold by BLM in the planning area has averaged 1,507 cords annually between 1986 to 1988. Opportunities for increasing the availability of fuelwood for local use include managing designated areas for fuelwood harvest.

# Animals

The fish and wildlife resources on the Roseburg District are the product of an array of habitat conditions stemming from different plant communities, seral stages within the communities and numerous inherent structural features including snags, down logs, and multi-layered canopies. Additional landscape features such as riparian, streams, wooded bogs and swamps, cliffs, and talus slopes are other specific habitats of high value in the planning area. Table 6 in the Water Resources section indicates stream miles. Table 8 in the Vegetation section lists acres of the various seral stages within the District. Other unique habitat areas such as bogs, cliffs and talus slopes are minor acreages of the District land base and not specifically tabulated.

The combination of these habitats provides niches for an assemblage of mammals, birds, reptiles, amphibians and fish totaling over 300 species. For purposes of the RMP, the various species have been prioritized and grouped since it was not possible to treat each of the over 300 species on an individual basis.

Priority species or species groups were selected based on whether they were of high public interest (e.g., coho salmon, osprey, wild turkey, Roosevelt elk and mountain lion), Federal or State listed threatened or endangered species or candidates for such a listing (e.g., bald eagle, spotted owl, Columbian white-tailed deer and Townsend's big-eared bat) or listed in the Oregon Natural Heritage data base (e.g., sharptail snake, northern goshawk, ringtail cat and red tree vole).

Based on available information, a write-up was assembled on each of the habitats and several of the priority species to portray existing conditions and current management direction.

For the habitats mentioned above, information was provided on description, effects of other activities, and the current management direction for the habitat. For the animal species, information was displayed on the species status, inventory data, habitat requirements, effects of other activties on the habitat and population, any recognizable trends in habitat or population, and the current management direction. Species such as the bald eagle, spotted owl, black bear, coho salmon and steelhead trout are examples where specific information is provided.

In the case of the bald eagle, there are six known nest sites within the planning area occurring along the North Umpqua and Umpqua Rivers. In addition to maintaining habitat conditions around these nest sites, there are other lands managed under the direction set forth in the Umpqua Corridor Habitat Management Plan that provide potential nest sites now and in the future. These are intended to increase the nesting population leading to the recovery of the species and removal from the Federal threatened species list.

The northern spotted owl is also highlighted. In 1990 it was listed as a Federal threatened species. Intensive inventory and study of the species in the planning area has detected 207 locations of owls on BLM lands and an additional 18 locations on the intermingled private lands. During the past 5 years, owl pairs were verified at least once on 177 of the 207 locations on BLM lands. Additional data is provided on home range and habitat use for the owl, gathered using radio telemetry techniques. Management direction is explained through a summary of the BLM/ODFW spotted owl habitat management agreement. BLM has expanded interim management for spotted owls for fiscal years 1991-1992 by not planning any regular green timber sales in any of the Habitat Conservation Areas (HCAs) recommended by the Interagency Scientific Committee.

Varying levels of information are provided on the selected species and species groups to provide insight into the current management situation. This information provides the baseline upon which to identify additional management opportunities for the future. The prescribed actions in the current management direction along with the new management opportunities identified, will provide the elements from which the various alternatives will be formulated.

[1]Data to be available for the RMP/EIS.

Current management direction includes the following actions:

—Management for mature and old growth seral stages through land withdrawal and longer rotations.

—Installation of instream habitat structures to enhance spawning and rearing habitat for anadromous fish species.

—Maintenance of buffer strips along streams to provide habitat for fish and associated terrestrial species.

—Provide snag and down tree habitat to meet the future habitat needs of cavity dwelling species.

—Manage lands identified in the Umpqua Corridor Habitat Management Plan to provide existing and future habitat for bald eagle and other species related to the area.

Among the new management opportunities that will be considered in developing the array of alternatives are the following types of actions:

—Purchase or exchange of lands with willing private interests to enhance land ownership to maintain or improve habitat conditions for selected species.

—Manage vehicle access through maintenance of open road density of 1.5 miles per square mile in priority elk habitat areas.

—Enhance forage quality and quantity in priority elk area by seeding 50% of the total clearcut acres harvested annually with legume seed mixtures.

—Cooperate with ODFW to supplement existing wild turkey flocks and/or hasten range expansion into suitable habitat.

—Distribute blocks of cavity dweller habitat no less than 2 acres in size across the landscape to ensure populations on 60% of potential on BLM lands.

—Allocate approximately 1,000 acres of forest land in the District to be used for protection of known and future raptor nest sites for species such as golden eagles, goshawks and red-tailed hawks.

## Cultural And Paleontological Resources

Any identifiable location of past human activity is a cultural resource, including archeological or historical sites, structures or traditional use places. The last category includes places of traditional cultural or religious importance to Native American groups.

Federal agencies are responsible for cultural resources on lands under their jurisdiction and for effects of their actions on cultural resources on non-agency lands. Through a group of laws beginning with the Antiquities Act (1906), BLM has been mandated to protect and manage such resources on lands it administers.

The planning area was first occupied by nomadic native peoples at least 11,000 years ago. The first historic occupancy, by transient fur trappers, began in the 1810s, with settlement following in the 1840s.

A Class I (existing data) cultural resource survey was completed for the District in 1980. Field surveys have been mainly linked to locations of surface-disturbing activities, particularly timber sales. Intensive surveys have been conducted on about 15,000 acres of BLM-administered lands, and lower standard surveys on about 8,000 acres.

The District has identified 106 prehistoric sites on BLM-administered lands. One of these sites has been listed on the National Register of Historic Places, and eight others have been determined to be eligible for listing.

Ten historic sites have been identified on BLM-administered lands. All are documented in historical records and have been verified in the field. One site is eligible for inclusion on the National Register, and is in the process of being nominated.

One known vertebrate fossil site has been identified on BLM-administered land in the planning area.

No sites on BLM-administered lands in the planning area have been identified by Native American groups as locales of traditional or religious uses.

BLM conducts surveys for cultural resources prior to authorizing surface disturbing activities and prior to approval of land disposal. Identified cultural resources are evaluated and protected as appropriate to the importance of the resource. Consultation with the State Historic Preservation Officer occurs when cultural resources are identified.

# Special Areas

Special areas currently designated on the Roseburg District include areas of critical environmental concern (ACECs), research natural areas (RNAs), environmental education areas (EEA), and outstanding natural areas (ONAs). ACECs have been designated under the authority of the Federal Land Policy and Management Act of 1976 to protect natural resources, systems, or processes that have been determined to have more than local significance and in need of special management attention, and to protect human life and provide safety from natural hazards. RNAs have been designated to protect natural features for the purpose of research and education, EEAs to protect natural features for the purpose of education, and ONAs to protect natural features for the purpose of recreation. Each designated special area received an interdisciplinary review to consider potential modifications and to determine if the areas met ACEC criteria. A list of presently designated areas is presented in Table 16.

Two additional areas have been nominated by BLM staff for ACEC designation. Each nomination was evaluated by an interdisciplinary team of BLM managers and staff to determine whether their values met ACEC criteria of "relevance" and "importance". Final decisions on eligibility were made by the District Manager. Description and eligibility of special area nominations is presented in Table 17.

All existing and potential special areas are shown on Map 5.

# Recreation

There are an estimated 250,000 annual recreation visits to BLM-administered lands in the planning area. Hunting, fishing, hiking, horseback riding, general sightseeing and driving recreation vehicles account for the majority of visits. Concentrated visitation occurs at seven developed recreation sites on BLM-administered lands (see Map 6). There are 12 miles of developed hiking/horseback trails and 2,200 miles of BLM-controlled access road open to motorized travel. Most vehicle use is limited to existing roads, as unroaded terrain and vegetation inhibit driving off-road. Approximately 414,000 acres are designated as open to off-road vehicle use, and 9,700 acres are closed.

Recreation use is concentrated in the following eight locations:

- North Umpqua Wild and Scenic River
- Umpqua River
- Rock Creek
- Canton Creek
- Cow Creek
- Little River
- South Umpqua River
- Cavitt Creek

All BLM-administered lands fall into two recreation management classes - special recreation management areas (SRMAs) and extensive recreation management areas (ERMAs). A small proportion of the lands in the planning area are managed as SRMAs (areas where a commitment has been made to provide specific recreation opportunities), which may include sites with major investments in recreation facilities to meet management objectives. Such objectives include providing recreation opportunities that would not otherwise be available to the public; reducing conflict among users; minimizing damage to resources; and reducing visitor health and safety problems. Existing SRMAs are described in Table 18.

BLM's pro-rata share of recreation demand increase anticipated for the planning area by the year 2000 (derived from the State Comprehensive Outdoor Recreation Plan) is compared in Table 19 to current estimated recreation activity on BLM-administered lands.

The following major opportunities have been identified for BLM to enhance recreation opportunities during the 1990s to help meet these demands:

— Rebuild restroom facilities at Susan Creek Campground and Picnic sites. Develop 16 additional camp units at Susan Creek Campground.

— Expand BLM management presence through uniformed seasonal personnel.

— Develop and pave the parking area at the north end of Swiftwater bridge.

— Construct vault toilets near the new parking lot south of Swiftwater bridge.

— Create wildlife viewing stations.

— Improve visitor information services at all recreation sites.

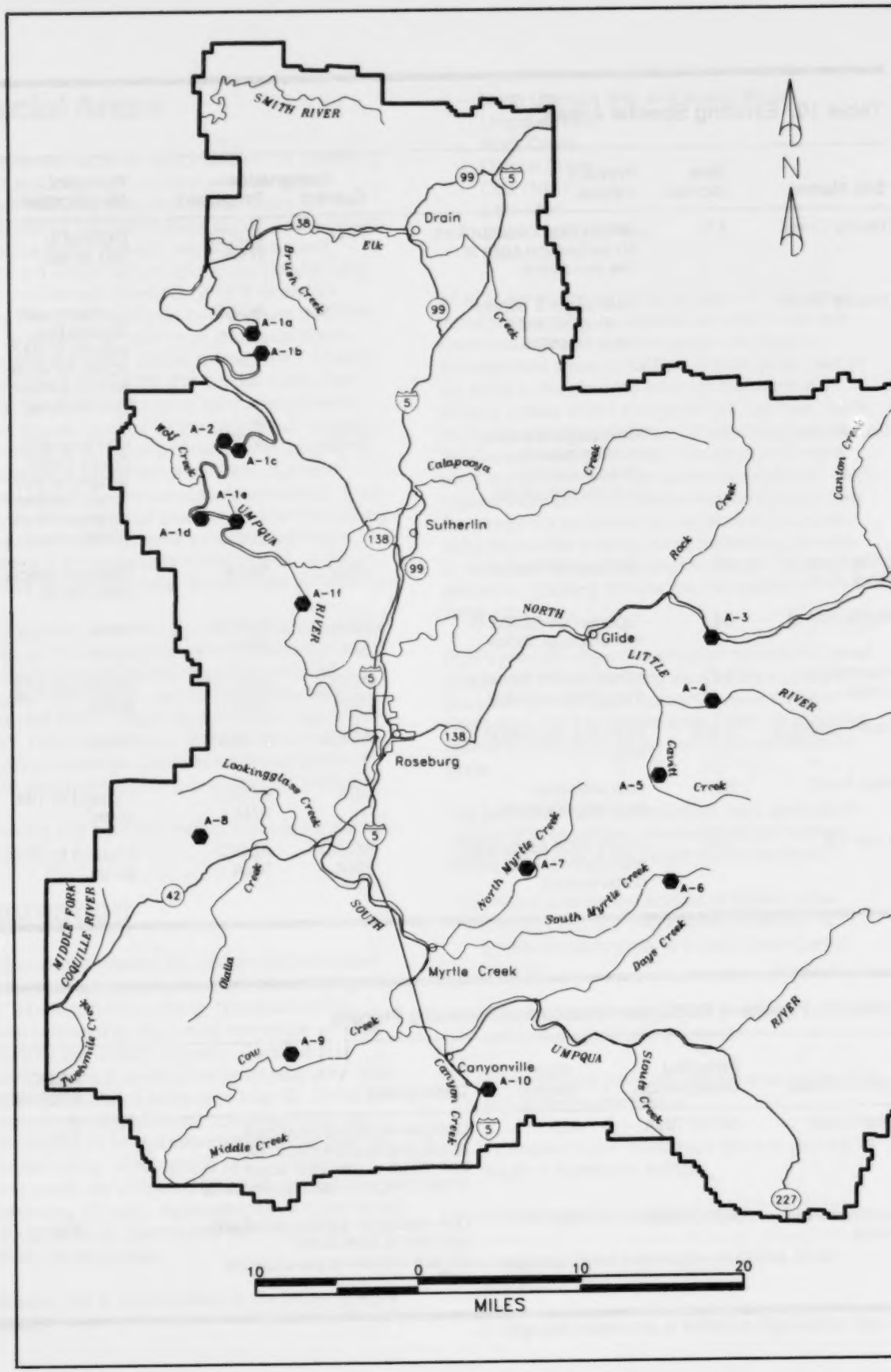
— Upgrade restrooms at Millpond Recreation Site.

**Table 16. Existing Special Areas.**

| Site Name | Size (acres) | Primary Values | Designation Current | Designation Proposed | Potential Modification |
|---|---|---|---|---|---|
| Beatty Creek | 170 | Jeffrey pine communities on serpentine soils at low elevations. | RNA | ACEC/ RNA | Expand to 331 acres. |
| Brad's Creek | 127 | Bald eagle & osprey nesting habitat, class II scenic. | ACEC | ACEC | Combine with Golden Bar, expand to 947 acres, rename Umpqua River Wildlife Area. |
| Golden Bar | 93 | Bald eagle & osprey nesting habitat, class II scenic, cultural resources. | ACEC | ACEC | Combine with Brad's Creek, expand to 947 acres, rename Umpqua River Wildlife Area. |
| Little River Rock Arch | 15 | Geologic formation | ONA | None | Remove special area status. |
| Myrtle Island | 28 | Riparian woodland in the Umpqua Valley. | RNA | ACEC/ RNA | None |
| North Myrtle Creek | 240 | Mixed conifer forest in the Umpqua Valley. | ACEC/ RNA | ACEC/ RNA | Expand to 472 acres. |
| North Umpqua | 1,620 | High use recreation area. | ACEC | ACEC | None |
| Red Pond | 85 | Low elevation permanent ponds. | EEA | ACEC/ RNA | Expand to 134 acres. |
| Tater Hill | 170 | Active slide associated with successional plant communities. | ACEC/ RNA | ACEC/ RNA | Expand to 280 acres. |

**Table 17. Results of ACEC Identification and Screening Process**

| Special Area | Potential Designation | Size (Acres) | Description | ACEC Eligibility |
|---|---|---|---|---|
| Bear Gulch | ACEC/RNA | 330 | Douglas fir-canyon live oak forest and southwestern live oak forest in the west slope of the Oregon Cascade Province | Yes |
| Bushnell Irwin Rocks | ACEC/RNA | 958 | Oak-madrone-conifer woodland and first to third order stream system in the Umpqua Valley | Yes |


SMITH RIVER
Drain
Elk
Brush Creek
A-1a
A-1b
Wolf Creek
A-2
A-1c
A-1e
A-1d
UMPQUA
RIVER
A-1f
Sutherlin
Calapooya
Creek
Rock
Canton Creek
NORTH
Glide
A-3
LITTLE
A-4
RIVER
Roseburg
Lookingglass Creek
Cavitt
A-5
Creek
A-8
North Myrtle Creek
A-7
South Myrtle Creek
A-6
Days Creek
SOUTH
MIDDLE FORK
COQUILLE RIVER
Olalla
Creek
Myrtle Creek
Tenmile Creek
Cow
A-9
Creek
Canyonville
A-10
Canyon Creek
UMPQUA
RIVER
Middle Creek
Susie Creek
N
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY

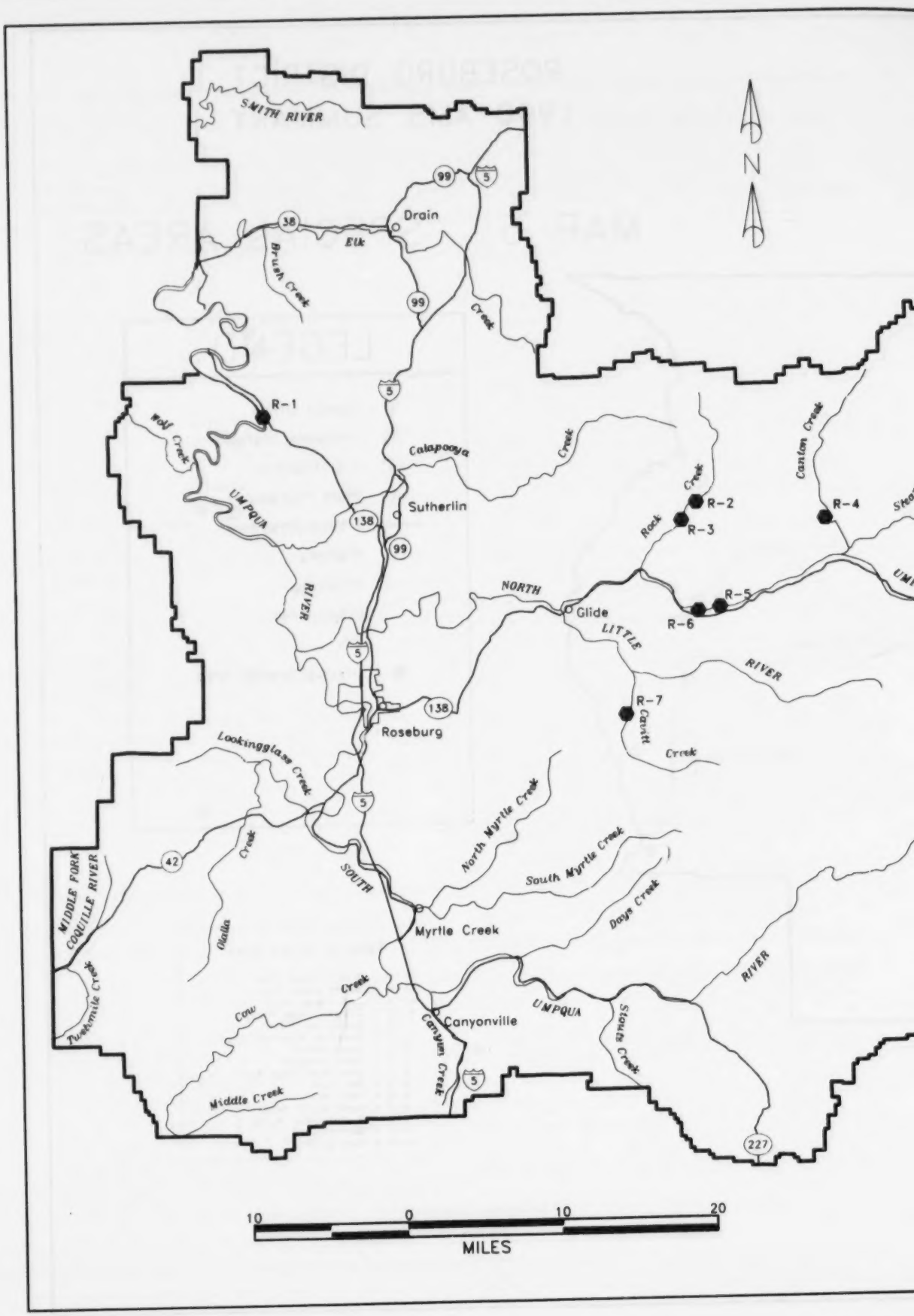
## MAP 5: SPECIAL AREAS

### LEGEND

- District Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- District Boundary
- Highway
- Stream
- Urban Area
- City
- Existing Special Area

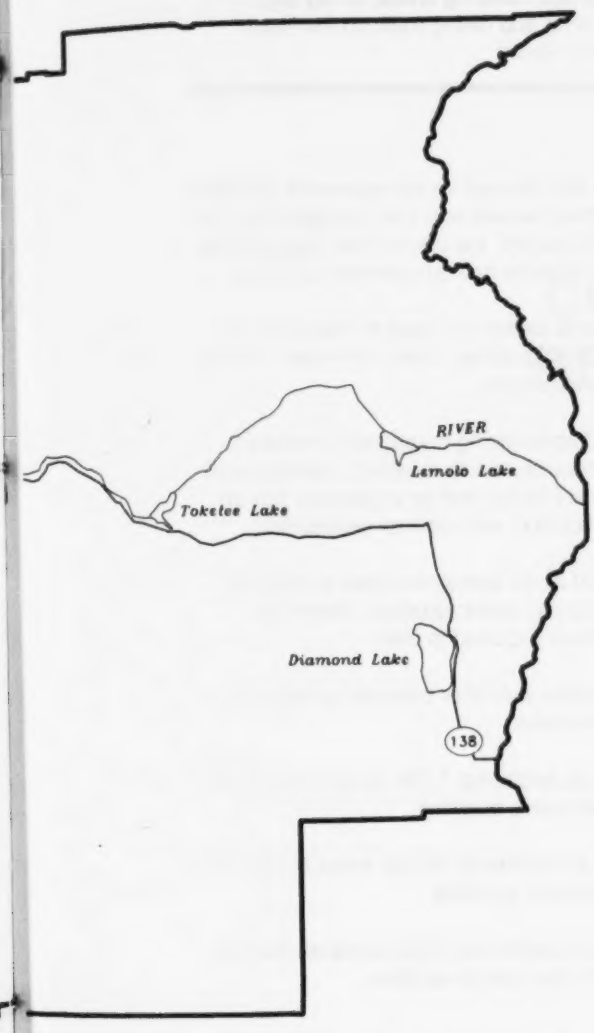
### Special Area Key

A-1a = Brod's Creek Tract
A-1b = Martin Creek Tract
A-1c = Lost Creek Tract
A-1d = Cougar Creek Tract
A-1e = Golden Bar Tract
A-1f = Woodruff Mountain Tract
A-2 = Myrtle Island
A-3 = North Umpqua
A-4 = Little River Rock Arch
A-5 = Red Pond
A-6 = Tater Hill
A-7 = North Myrtle Creek
A-8 = Bushell Irwin Rocks
A-9 = Beatty Creek
A-10 = Bear Gulch


SMITH RIVER
99
5
Drain
38
Elk
Brush Creek
99
Creek
5
R-1
Wolf Creek
UMPQUA
Calapooya
Creek
Sutherlin
138
99
RIVER
NORTH
Rock Creek
R-2
R-3
Canton Creek
R-4
R-5
R-6
Glide
LITTLE
RIVER
5
138
Roseburg
R-7
Canitt
Creek
Lookingglass Creek
5
North Myrtle Creek
South Myrtle Creek
Days Creek
42
Creek
SOUTH
MIDDLE FORK
COQUILLE RIVER
Myrtle Creek
Olalla
Twelvemile Creek
Cow
Creek
Canyonville
Canyon Creek
UMPQUA
RIVER
Middle Creek
5
Sigsbee Creek
227
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY

## MAP 6: RECREATION SITES




### LEGEND

- District Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- District Boundary
- Highway
- Stream
- Urban Area
- City
- Existing Recreation Site

### Recreation Site Key

R-1 = Tyee
R-2 = Rock Creek Campground
R-3 = Millpond
R-4 = Scaredman
R-5 = Susan Creek
R-6 = North Umpqua Wild & Scenic River
R-7 = Cavitt Creek

**Table 18. Special Recreation Management Areas**

| SRMA Name | Size (Acres) | 1988 Visits | Other Relevant Data |
|---|---|---|---|
| N. Umpqua River | 1620 | 57,000 | Developed family and group camping areas, family and picnicking areas, boat ramp and hiking trails on the North Umpqua Wild and Scenic River. |

— Monitor dispersed and ORV recreation use.

— Develop a new 40 unit campground on the south bank of the North Umpqua River at Swiftwater bridge.

— Develop equestrian trails.

— Develop back country by-ways along Cow Creek, Wolf Creek, and Smith River roads.

# Visual Resources

There are approximately 76,000 acres of BLM-administered lands in the planning area having high to moderate scenic qualities and high visual sensitivity levels (see Map 7).

**Table 19. Projected Increase in Demand for Recreation**

| Activity | Estimated Current Visits | Projected Visits Year 2000 |
|---|---|---|
| Off-road use | 5,825 | 6,090 |
| Motorized travel | 31,000 | 32,519 |
| Non-motorized travel | 12,400 | 13,367 |
| Camping | 16,621 | 17,500 |
| Hunting | 91,000 | 93,275 |
| Other land-based | 22,000 | 24,112 |
| Fishing | 43,500 | 45,240 |
| Boating | 7,535 | 7,896 |
| Other water-based | 7,450 | 8,000 |
| Winter sports | 2,000 | 2,080 |
| **Total** | **239,331** | **250,079** |

Scenic values are affected by management activities, particularly timber harvest and road construction. To maintain scenic quality, the District has imposed the following requirements on management activities:

— On 30 acres being managed to maintain the highest scenic qualities, allow no timber harvest or road construction.

— On 9,300 acres being managed to maintain high to moderate scenic qualities, management objectives are being met by vegetative screening, partial cutting and minimal clearcutting.

— On 13,600 acres being managed to maintain moderate to low scenic qualities, minimize clearcut areas exposed to view.

Major opportunities to further maintain or improve scenic quality include:

— Manage an additional 1,705 acres to maintain the highest scenic qualities.

— Manage an additional 66,400 acres of high to moderate scenic qualities.

— Manage an additional 9,300 acres to maintain moderate to low scenic qualities.

# Wild And Scenic Rivers

Table 20 shows river stretches affecting BLM-administered lands in the planning area, which have been designated by Congress under the Wild and Scenic Rivers Act.

The Nationwide Rivers Inventory identifies three river segments which cross or are within a quarter mile of BLM-administered lands in the planning area

# COMMENT RESPONSE FORM

COMMENTS ON THE ANALYSIS OF THE MANAGEMENT SITUATION FOR THE

_____ RESOURCE MANAGEMENT PLAN

(You may wish to comment on the accuracy of the information displayed or to suggest additional information that should be considered.)

SUGGESTIONS FOR THE PREFERRED ALTERNATIVE FOR THE _____ RESOURCE MANAGEMENT PLAN

(You may wish to suggest (1) one of the five alternatives outlined in Appendix 3, (2) a new alternative blending elements from more than one of those five, (3) and/or continuation of specific parts of current management direction, and/or (4) implementation of specific management opportunities.)

NAME _____

ADDRESS _____

PLACE
STAMP
HERE

**U.S. Department of the Interior**
Bureau of Land Management
Roseburg District Office
777 N.W. Garden Valley Blvd.
Roseburg, Oregon 97470

## Table 20. Designated Wild, Scenic and Recreational Rivers

**North Umpqua, Designated as a Recreational River**

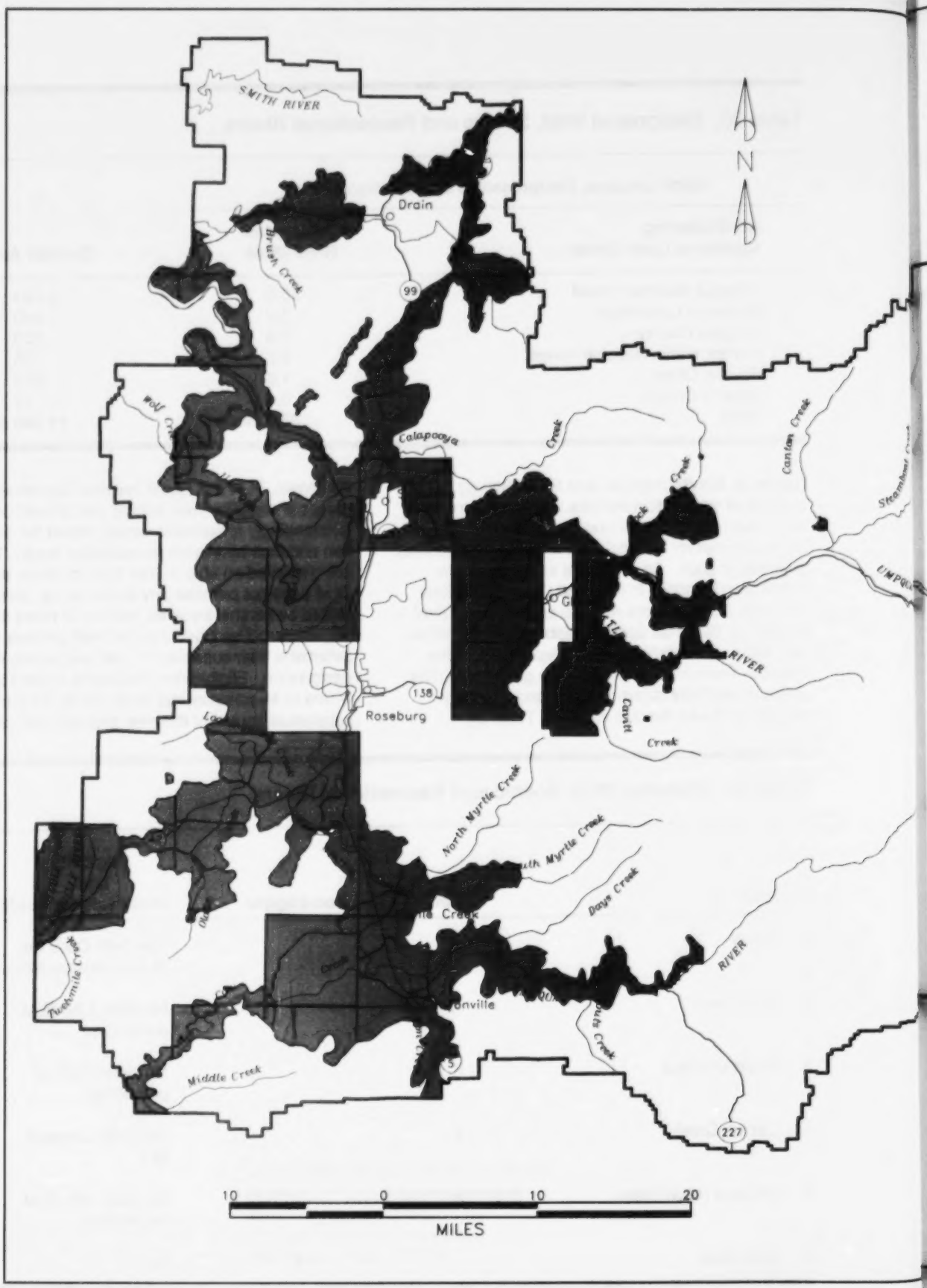
| Administering Agency or Land Owner | Designated River Miles | Corridor Acres |
|---|---|---|
| Umpqua National Forest | 25.2 | 8,064 |
| Bureau of Land Mgmt. | 3.9 | 1,640 |
| Douglas County | 2.6 | 520 |
| Private; within National Forest | 0.2 | 125 |
| Private; Other | 1.8 | 674 |
| State of Oregon | 0.1 | 17 |
| **Total** | **33.8 miles** | **11,040 acres** |

(Umpqua, South Umpqua, and Smith Rivers). Other sources of information indicate that two segments of other such rivers (Cow Creek and Little River) could have potential for national wild, scenic or recreational river designation. An additional stream, Canton Creek was identified in the 1988 Oregon Omnibus Wild and Scenic Rivers Act. To each of these river segments, BLM has applied eligibility and classification criteria established in U.S. Department of the Interior - Department of Agriculture guidelines. The status of eligibility determinations and suitability studies for these rivers is shown in Table 21.

As shown, BLM has found five river segments to meet the eligibility (free flowing and at least one outstandingly remarkable value) criteria for designation and thus be eligible for suitability study. They are displayed on Map 8. For three of these streams BLM does not propose any further study, given the limited ownership involved, but two of these river segments will be studied in the RMP process to determine their suitability for wild and scenic river designation. Eligible river segments located in areas where BLM-administered lands would not provide for substantial control of the river segment and protec-

## Table 21. Potential Wild, Scenic and Recreational Rivers

| River | Eligible | Non-Eligible | Eligibility and Proposals for Study |
|---|---|---|---|
| 1. Smith | X | | Yes (with Coos Bay BLM & Siuslaw NF) |
| 2. Cow Creek | X | | No (only 17% BLM ownership) |
| 3. South Umpqua | X | | No (only 1% BLM ownership) |
| 4. Canton Creek | X | | Yes (with Umpqua NF) |
| 5. Umpqua (Main Stem) | X | | No (only 10% BLM ownership) |
| 6. Little River | | X | No. |

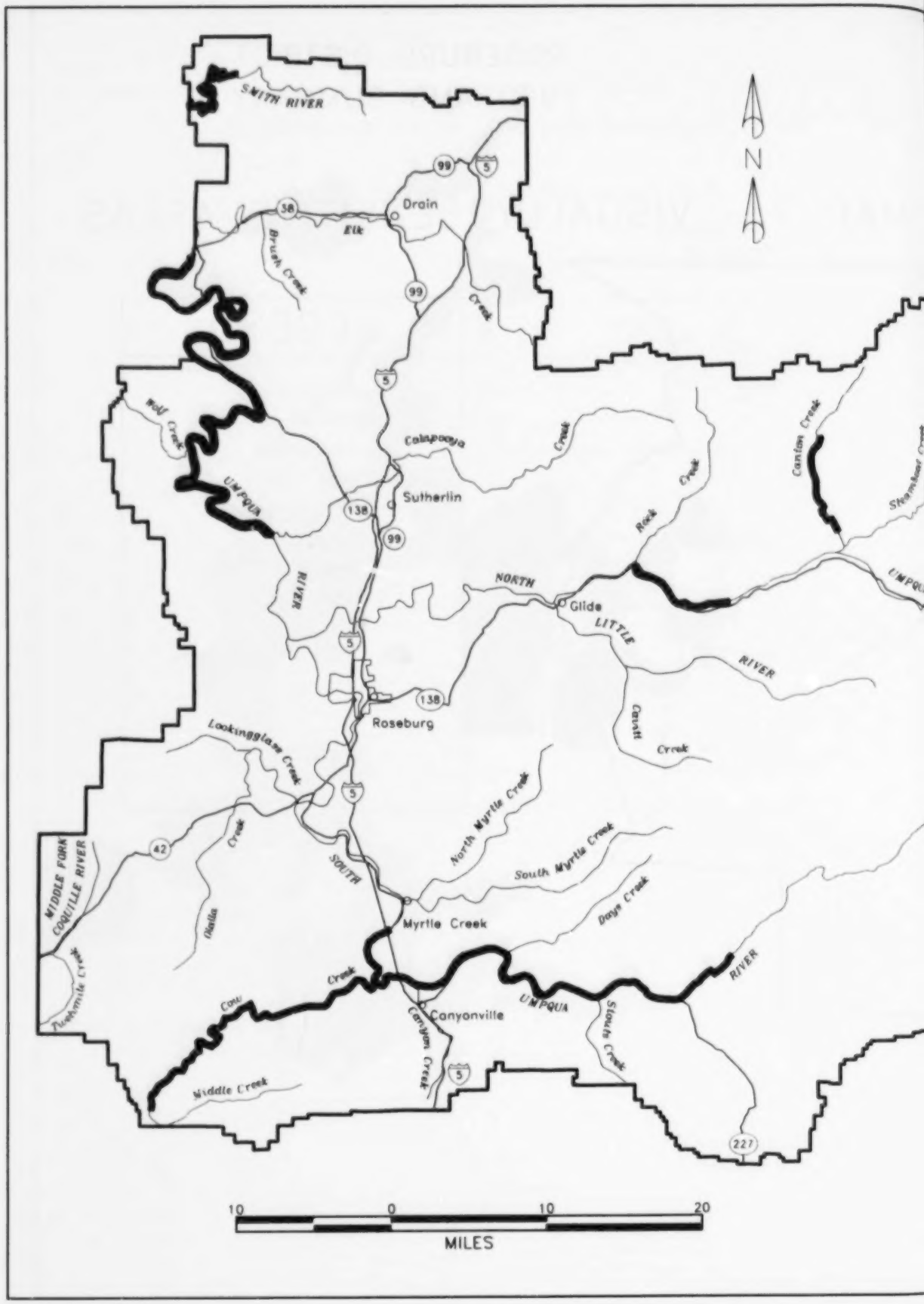

SMITH RIVER
Drain
Brush Creek
99
Calapooya
Creek
Canton Creek
Steamboat
UMPQUA
RIVER
138
Roseburg
Cavitt
Creek
North Myrtle Creek
Days Creek
RIVER
Middle Creek
227
N
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY

## MAP 7: VISUALLY SENSITIVE AREAS

### LEGEND

- District Office
- 5 Interstate Highway
- 199 U.S. Highway
- 46 State Highway
- District Boundary
- Highway
- Stream
- Urban Area
- City
- Visually Sensitive Area


SMITH RIVER
N
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Drain
38
Elk
Brush Creek
99
Creek
5
Wolf Creek
Calapooya
Creek
UMPQUA
Sutherlin
138
99
Rock
Creek
Canton Creek
RIVER
NORTH
Glide
LITTLE
RIVER
5
138
Roseburg
Lookingglass Creek
Cavitt
Creek
5
North Myrtle Creek
42
Creek
SOUTH
South Myrtle Creek
MIDDLE FORK
COQUILLE RIVER
Olalla
Myrtle Creek
Days Creek
Tiedemile Creek
Cow
Creek
Canyonville
UMPQUA
RIVER
Canyon Creek
Stouts Creek
5
Middle Creek
227
10
0
10
20
MILES

# ROSEBURG DISTRICT
# 1990 AMS SUMMARY

## MAP 8: WILD, SCENIC, AND RECREATIONAL RIVERS

### LEGEND

- District Office
- Interstate Highway (5)
- U.S. Highway (199)
- State Highway (46)
- District Boundary
- Highway
- Stream
- Urban Area
- City
- Wild, Scenic, and Recreational River Segment

tion of the identified outstandingly remarkable values are not considered appropriate for BLM-initiated study as part of the RMP process. The values on BLM-administered lands which help to make these excluded rivers eligible for study will be protected until a suitability study is completed by an appropriate agency.

Those river segments found suitable in the final resource management plan will be further addressed in a subsequent legislative environmental impact statement. Based on that statement, the Department will recommend to Congress which segments should be designated through legislation.

## Minerals

Current mineral activity on BLM-administered lands in the planning area consists primarily of gold exploration and aggregate production. Most of the gold mining activity has been small-scale placer mining with some exploration in old underground mines. Almost all of the aggregate production has been used to build and maintain logging roads. During the early 1980s, there was some oil and gas exploration activity, but at present there is none.

**Table 22. Mineral Potential**

| Locatable Minerals | Acres |
|---|---|
| Low potential | 307,640 |
| Moderate | 87,978 |
| High | 24,420 |
| **Leasable Minerals** | |
| Oil and Gas | |
| Low Potential | 186,690 |
| Moderate | 78,102 |
| High | 155,820 |
| Geothermal | |
| Low Potential | 420,612 |
| Moderate | 0 |
| High | 0 |
| **Salable Minerals** | |
| Low Potential | 0 |
| Moderate | 418,722 |
| High | 1,890 |

As of January 1989, there were 1,142 mining claims and 36 active exploration or mining operations on record. There are 12 oil and gas leases that cover 17,880 acres and no coal or geothermal leases. The average production of rock in the 1984-1988 period was approximately 440,000 cubic yards per year. There are 189 active rock pits. Table 22 lists acres of mineral occurrence potential. The Bureau administers the mineral estate on 1,717 acres of private surface ownership.

It is the Bureau's policy to encourage exploration and development of minerals using environmentally sound practices. Most lands in the planning area are open to such activities subject to a variety of State and Federal laws and regulations. Opportunities exist to revoke discretionary withdrawals and closures that restrict mineral development.

## Lands And Rights-Of-Way

The BLM-administered lands in the planning area lie generally in a checkerboard pattern, intermingled with lands that are primarily privately owned. This ownership pattern complicates boundary identification and management.

Since approval of the current land use plan, 66.17 acres have been sold. No lands have been transferred out of public ownership in exchange for other lands to be administered by BLM.

The current plan identified an additional 1,071.30 acres of land for disposal by sale or exchange. An additional 363.83 acres were identified for administrative transfer to the Forest Service. There are no active proposals pending to dispose of any of these lands. There are several small encroachments of private improvements across property lines, which could be resolved by sale.

In discussions, several adjoining landowners have expressed preliminary interest in specific parcels of land for exchange which could involve in excess of 4,000 acres of BLM-administered lands, and a similar acreage of private lands. BLM expects continuing interest in these kinds of programs. The potential exchanges present opportunities to improve BLM's management efficiency and ownership pattern.

There are several existing utility corridors crossing BLM-administered lands in the planning area. One proposal for an additional corridor is identified, but upgrading of existing facilities is likely.

There are seven developed hilltop or ridgetop communication sites on BLM-administered lands. Most sites have public access and utility service. Anticipated demand for additional microwave and emergency radio communications sites is likely to result in proposals to expand use of two sites. During the 1990s, some new sites for microwave facilities are expected to be needed on BLM-administered lands. Seven potential locations for new sites have been identified.

## Roads

The road system serving BLM-administered lands provides access for harvest of timber and other forest products, for intensive forest management, for recreation, for mineral exploration and removal, and for access to rural home sites.

There are 2,598 miles of BLM-controlled roads and 263 miles of private-industry roads with BLM improvements (existing or committed to construction in current contracts) in the planning area. Of these, 2,394 miles (84%) are surfaced for all-weather use. Preventive maintenance of the roads controlled or improved by BLM occurs on a regular cycle, while corrective maintenance occurs as problems are identified.

Under current District policies, 26 miles of road are closed to public use year round, to protect the road surface and minimize erosion or to minimize disturbance to wildlife, particularly in important elk habitat areas. Another five miles are closed seasonally (winter and early spring) for the same purposes. If the current land use plan were extended, about 1,300 miles of new road would be constructed before the road network anticipated to support the current plan is complete.

## Access

In general, legal access is available to most BLM-administered lands in the planning area for BLM management activities (including timber removal), but only 60% of the lands are legally accessible to the general public. Under current management direction, acquisition of an additional 169 road easements would be needed to support the future timber management program. Opportunities may exist to negotiate public access rights in conjunction with existing reciprocal right-of-way agreements that now permit only access for BLM administration and timber harvest.

## Fire

There were 140 wildfires which burned 15,025 acres on BLM-administered lands in the planning area from 1980 through 1988. Of the total acres burned, 71% resulted from lightning caused fire and 29% from human use of the forest. Current management direction is to control wildires on or threatening BLM-administered lands at the least total combined cost of fire suppression, land rehabilitation and resource loss. Protection is provided through a contract with the Oregon Department of Forestry, which also provides fire protection on the intermingled (predominately private) forest lands.

Prescribed (intentional) fires are used, primarily on sites recently logged, to reduce the hazard of wildfire and to prepare the sites for tree planting.

The acres burned by prescribed fire in recent years are shown in Table 23.

## Socioeconomic Conditions

Although a small portion of Jackson and Lane Counties are located within the boundary of the Roseburg District, Douglas County is the only county to be economically affected by activities on BLM-administered lands in the planning area. The population of Douglas County is currently (1988) estimated to be 93,000, a slight decline since 1980 (93,800).

Total wage and salary employment in the counties averaged 30,800 from 1984 through 1988, of which employment in manufacturing of wood products (including paper and allied products) was 8,200. Unemployment in the county averaged 9.7% during that period. State unemployment during the same period averaged 7.7%. Total personal income in Douglas County from 1984 through 1988 averaged $1,099,538,000. BLM's input-output model (BLMPACT) shows that BLM resource use contributed an average of 2,377 direct and indirect jobs and $48.9 million in annual personal income during those years. Of that personal income, about $48.6 million were attributable to timber management and harvest, and $0.3 million to recreation activities on BLM-administered lands that specifically draws non-resident activity and thus influences local employment. Another activity that is partially dependent on BLM-administered lands and can influence local employment is commercial fishing, but we have no solid basis for measuring that relationship at this time.

**Table 23. Acres Burned by Prescribed Fire**

| Year | Primary Purpose | | | Total |
|---|---|---|---|---|
| | Site Preparation | Hazard Reduction | Habitat Improvement | |
| 1980 | 2,409 | 0 | 0 | 2,409 |
| 1981 | 1,389 | 0 | 0 | 1,389 |
| 1982 | 1,249 | 0 | 0 | 1,249 |
| 1983 | 1,870 | 0 | 0 | 1,870 |
| 1984 | 1,656 | 0 | 0 | 1,656 |
| 1985 | 2,960 | 0 | 0 | 2,960 |
| 1986 | 3,950 | 0 | 0 | 3,095 |
| 1987 | 2,900 | 0 | 0 | 2,900 |
| 1988 | 2,788 | 0 | 0 | 2,788 |
| **Total** | **20,316** | | | **20,316** |

The eighteen O&C counties receive half of BLM receipts from O&C lands in western Oregon. These are primarily receipts from timber sales. Revenue from management of other BLM-administered lands is also shared with local political subdivisions. Table 24 shows the average 1984-1988 revenue distribution to each of the counties from timber sales from O&C lands in the planning area, along with average total property tax revenues during that period.

Payments made to local taxing districts in lieu of taxes on reconveyed Coos Bay Wagon Road lands administered by the District averaged $86,500 during 1984-1988. Distribution of average in lieu of tax payments on Roseburg District Coos Bay Wagon Road lands is shown on Table 25.

The Regional Economic Development Strategy for the counties in the planning area promotes tourism. BLM has so far identified no management activities that could influence this strategy.

# Rural Interface Areas

County governments in the District have zoned some nearby forest and other adjacent lands for rural residential and other uses which, in some situations, are incompatible with BLM intensive forest management activities. For purposes of this discussion, certain private lands zoned for purposes allowing residential use and the adjoining BLM-administered land are referred to as rural interface areas. They are found throughout the lower elevations of the District. The amount of BLM-administered land within these identified areas is summarized in Table 26.

In recent years, other land owners or managers in these interface areas have begun to express concerns about some BLM management activities. Often, conflicts can be resolved during project planning. When conflicts cannot be resolved, opposing parties may protest and appeal BLM actions. These conflicts often result in more costly management for BLM.

Under the current management framework plan for the District, two project planning guidelines apply to rural interface areas: (1) protect domestic water diversions if necessary; and (2) minimize management impacts in visually sensitive areas where possible. A detailed resource inventory for these values is used to design projects.

Major opportunities to minimize conflicts in rural interface areas are:

— within sensitive rural interface areas, avoid using practices, such as herbicide spraying, slash burning and large clearcuts, which are objectionable to land owners.

## Table 24. Average Annual County Property Tax Revenues, 1984-88

| County | Avg. O&C Payment | Taxable Property | Tax Rate (%)[1] | Avg. Tax Receipts |
|---|---|---|---|---|
| Benton | $2,144,459 | $1,797,507,000 | 3.01 | $5,421,921 |
| Clackamas | $4,150,740 | $8,204,304,000 | 1.92 | $15,785,069 |
| Columbia | $1,546,393 | $1,400,610,000 | 1.11 | $1,555,590 |
| Coos | $4,439,612 | $1,445,958,000 | 1.97 | $2,849,249 |
| Curry | $2,742,513 | $628,189,000 | 1.29 | $802,185 |
| Douglas | $18,849,539 | $2,511,645,000 | 0.90 | $2,254,693 |
| Jackson | $11,759,182 | $3,761,527,000 | 0.43 | $1,594,846 |
| Josephine | $9,044,273 | $1,732,341,000 | 0.26 | $454,241 |
| Klamath | $1,750,939 | $1,729,604,000 | 1.81 | $3,125,595 |
| Lane | $11,490,336 | $6,745,055,000 | 0.96 | $6,509,952 |
| Lincoln | $270,329 | $1,719,055,000 | 2.66 | $4,583,813 |
| Linn | $1,986,538 | $2,296,261,000 | 1.39 | $3,180,264 |
| Marion | $1,096,616 | $4,876,601,000 | 2.39 | $11,665,985 |
| Multnomah | $816,182 | $17,975,804,000 | 3.24 | $58,309,468 |
| Polk | $1,622,533 | $1,062,476,000 | 1.33 | $1,409,609 |
| Tillamook | $421,387 | $868,889,000 | 1.86 | $1,617,535 |
| Washington | $474,060 | $8,836,339,000 | 2.15 | $19,155,542 |
| Yamhill | $541,783 | $1,643,336,000 | 2.27 | $3,375,600 |

[1]Tax rate multiplied by taxable property does not equal average tax receipts due to rounding.

## Table 25. In Lieu Tax Payments on CBWR Lands Administered by the Bureau of Land Management in Douglas County[1]

| Taxing District | Average Annual Severance Tax [2] Received (1984-88) | Average Annual Property Tax[3] Received (1984-88) | Average Budget Levy Submitted (1984-88) | Avg. CBWR Payments As a Percent Of Average Levy[4] (1984-88) |
|---|---|---|---|---|
| Douglas County | $4,128 | $1,069 | $2,823,462 | 0.184% |
| Oakland School Dist. 1 | $372 | $122 | $1,760,969 | 0.028% |
| Camas Valley School Dist. 21 | $15,683 | $4,391 | $477,575 | 4.203% |
| Winston-Dillard School Dist. 116 | $32,920 | $10,559 | $3,923,893 | 1.108% |
| Douglas Educational Service Dist. | $3,381 | $1,036 | $2,715,619 | 0.163% |
| Umpqua Community College | $3,451 | $1,135 | $2,697,679 | 0.170% |
| Roseburg School Dist. 4 | $0 | $9 | $12,014,112 | <0.001% |

[1]Payments in lieu of taxes are made to the county treasurer and distributed to tax Districts.
[2]Severance tax is 6.5% of the value of the timber harvested.
[3]Assessed value of forest land is a function of the price of second-growth Douglas-fir stumpage over the most recent three-year period.
[4]The CBWR lands in the Roseburg School District are not forested with commercial species.

**Table 26. BLM Acres in Rural Interface Areas**

| Zoning Categories [1] in Interface Areas | BLM Acres[3] Within 1/4-Mile | BLM Acres[3] Within 1/2-Mile |
|---|---|---|
| 0-5 Acre Lots | 8,552 | 24,052 |
| 6-20 Acre Lots[2] | 0 | 0 |
| 21+ Acre Lots | 134,424 | 195,282 |

[1]Lot sizes allowed to be created.
[2]Douglas County zoning does not define parcels between 6-20 acres.
[3]These 1/4 and 1/2 mile areas will be used for analytical purposes in the RMP/EIS.

—within rural interface areas of highly fragmented BLM-administered land, dispose of BLM-administered land.

# Interrelationships With Other Agencies

Interagency coordination with other federal, state and local government agencies is required by BLM regulations (43 CFR Part 1610.3). Many formal coordination relationships between the BLM and these other government agencies or units have been established through memoranda of understanding (with Interior Department agencies) and interagency agreements (all discussed hereafter as agreements). A number of these have been approved by the director of the Bureau and are sufficiently detailed to preclude the need for state office or district office level agreements. Some national level agreements have local supplemental agreements between lower level units of agencies. In addition, the state director has approved independent state level agreements, while the district manager has approved agreements with county governments. In general, these agreements deal with mechanisms for coordination, consultation and documenting consistency and therefore do not constrain resource allocations or management direction unless they are non-discretionary—that is, mandated by federal law, executive order or treaties. Some local agreements are very specific and involve techniques for managing public lands to meet detailed objectives for plant and animal habitat, research projects, big game transplants or multi-purpose communication sites. Any agreement element which is discretionary can be modified as a consequence of the RMP decision making process. Such agreements normally contain standard "escape clauses" that come into operation in the event of inadequate funding, discovery of contradiction with federal law, or the need to amend or revise the agreement due to newly approved plans, changes in resource condition, etc.

Relevant coordination occurs with the following agencies regarding the activities noted:

**U.S. Forest Service** - regarding plans, activities, and projects on adjacent lands.

**U.S. Fish and Wildlife Service** - regarding plans and activities that may affect a federal threatened, endangered, or proposed threatened or endangered species or its critical habitat, or a federal candidate species.

**Bonneville Power Administration** - regarding improvement of riparian zones and anadromous fish habitat as part of the Columbia Basin Fish and Wildlife Program of the Northwest Power Planning Council as authorized by the National Power Planning Act. Also regarding identification and evaluation of regional utility corridor options.

**U.S. Army Corps of Engineers** - regarding the Corps' authority, under the Clean Water Act, to regulate the discharge of dredged or fill materials into any estuary or wetland or stream with a flow in excess of five cubic feet per second.

**National Marine Fisheries Service** - regarding planning and activities which may affect marine, estuarine or anadromous fish resources.

**Soil Conservation Service** - regarding the National Cooperative Soil Survey.

**National Park Service** - regarding planning and activities that could affect an identified inventory or study river's ability to meet Wild and Scenic Rivers Act eligibility or classification criteria.

**Oregon Dept. of Fish and Wildlife** - regarding planning and activities affecting wildlife (including fish) habitat.

**Oregon Dept. of Forestry (OSDF)** - regarding BLM compliance with the Oregon Forest Practices Act in the conduct of timber harvest, reforestation, road construction and maintenance, chemical applications, and slash disposal. Also regarding BLM compliance with the statewide Smoke Management Plan and Visibility Protection Plan under the umbrella of the Federal Clean Air Act. And regarding fire protection, for which OSDF is BLM's primary contractor in the planning area.

**Oregon Dept. of Environmental Quality** - regarding BLM compliance with the Statewide Water Quality Management Plan, under the umbrella of Section 208 of the Federal Clean Water Act. Also regarding treatment and control of water pollution sources where such may be associated with BLM facilities.

**Oregon Energy Facility Siting Council** - regarding any proposed power plant larger than 25 megawatts, proposed electric transmission line over 230 Kilovolts in capacity or proposed natural gas line at least 16 inches in diameter.

**Oregon Dept. of Agriculture** - regarding noxious weed control programs and the state endangered plant species program. BLM coordinates site-specific noxious weed control activities with local weed control districts.

**Division of State Lands** - regarding BLM compliance with Oregon's Removal-Fill law, which regulates removing and filling of materials from and in the waters of the state.

**Highway Division, Oregon Dept. of Transportation** - regarding road planning in the vicinity of federal and state highways. Similar cooperation takes place with county road departments regarding county road systems.

**Oregon Dept. of Parks and Recreation** - regarding management of BLM-administered land adjacent to state parks and state scenic waterways.

**Oregon Dept. of Geology and Mineral Industries** - regarding mined-land reclamation on BLM-administered lands.

**State Historic Preservation Office** - regarding sites protected by National Historic Preservation Act regulations.

**Land Conservation and Development Commission, through the Department of Land Conservation and Development** - regarding consistency of BLM plans and activities with the Oregon Coastal Management Program, under the umbrella of the Federal Coastal Zone Management Act.

**Counties** - regarding consistency of BLM plans with acknowledged county comprehensive plans, as well as regarding a variety of BLM plans and activities that may affect county road systems, county parks and county natural resource management activities. BLM also participates in review of county planning actions in order to alert counties to potential conflicts and inconsistencies with BLM forest management plans or other plans.

# Appendix 1
# The Resource Management Planning Process

The Resource Management Plan (RMP) is a Land Use Plan as prescribed by the Federal Land Policy and Management Act of 1976. The RMP establishes in a written document:

- Land areas for limited, restrictive, or exclusive resource uses or for transfer from BLM administration;
- Allowable resource uses and related levels of production or use to be maintained;
- Resource condition goals and objectives to be reached;
- Program constraints and general management practices;
- Identification of specific activity plans required;
- Support actions required to achieve the above;
- General implementation schedule; and
- Intervals and standards for monitoring the plan to determine its effectiveness.

The underlying goal of the RMP is to provide efficient on-the-ground management of public lands and associated resources.

The procedure for preparing an RMP involves nine interrelated actions as shown in Table 1-1. Some actions may occur simultaneously and it may be necessary to repeat an action if additional information becomes available. The plan that results from this process is a general decision document designed primarily to help district and area managers make decisions, and to guide the efforts of staff on a day to day basis. Where more detailed management direction is required, specific activity plans will be prepared after the RMP is completed.

Preparation of the RMP was initiated in the fall of 1986, with public involvement in the identification of preliminary planning issues and concerns. The first four steps of the RMP process have been completed, except for any modifications that may occur as a result of public review of this summary or the full AMS, located in the District Office.

**Table 1-1. Resource Management Planning Process**

| Step | Completion Target |
|---|---|
| 1. Identification of Issues | Completed |
| 2. Development of Planning Criteria | Completed |
| 3. Inventory Data and Information Collection | Completed |
| 4. Analysis of Management Situation | Completed |
| 5. Formulation of Alternatives | Early 1991 |
| 6. Estimation of Effects | Summer 1991 |
| 7. Selection of a Preferred Alternative | |
| a. Draft RMP/EIS | Summer 1991 |
| b. Final RMP/EIS | 1992 |
| 8. Selection of the Resource Management Plan | Late 1992 |
| 9. Monitoring and Evaluation | Start 1993 |

After the plan is implemented, it will be monitored and evaluated on a continuing basis to assure that land management issues are being addressed as expected and that it is accomplishing its intended results.

Public involvement and consultation with affected state and local governments is required at several points in the RMP process. This consultation is essential so the final resource management plan will be as consistent as possible with state and local natural-resource-related plans, programs and policies.

# Appendix 2

# Public Involvement in the Process So Far

Public involvement has been an integral part of BLM's resource management planning (RMP) process from the outset. To date public involvement activities have included a series of information mailers or brochures, public meetings, open houses, field trips, distribution of planning documents, document review and comment periods, informal contacts, group meetings, written letters and responses to comments. Our efforts began in May 1986 with a mailer that asked for comments on the type of public involvement activities that should be conducted in the planning process.

In September 1986, a district mailer outlined the overall planning schedule and requested comments on the first major planning step: Issue Identification. BLM invited the public to identify issues or concerns they believed should be addressed in the RMP process. A news release announcing this step was distributed to the news media. During this planning step, each western Oregon district hosted an open house to help acquaint local citizens with the planning process and schedule and to discuss issues related to the planning process. On September 30, 1986 thirty-six people attended an open house in the Roseburg District Office.

Building on public comments received during the issue identification step, BLM prepared and distributed another district mailer in March 1987, summarizing publicly identified issues and concerns. The mailer also addressed the second and third planning steps: Development of Planning Criteria, including State Director Guidance, and Collection of Inventory Data. The mailer included a schedule of public meetings and/or field trips hosted by each district to review and discuss the technical elements of inventory collection, particularly forest inventory techniques. The mailer also disclosed a proposed element of planning criteria by identifying a proposed timber harvest computer model, and an opportunity for public comment on the model. The Roseburg District hosted two field trips to discuss forest inventory techniques and BLM forest land classification procedures. The first trip on May 14, 1987 to the northern portion of the district was attended by 24 people representing a variety of interests and organizations. The next day a similar trip to the southern portion of the district was attended by six people. Both trips included a look at a variety of forest land classifications which generated considerable discussion and interaction among participants over the procedures used in the classification process. The field trips provided a forum by which complicated technical procedures could be discussed and demonstrated, and land and resource features could be examined first hand in actual field situations, rather than discussed in an abstract sense in an office environment.

In August 1987, BLM distributed another mailer dealing with Planning Criteria and proposed State Director Guidance. This mailer requested comments on relevant topics for State Director Guidance and included a schedule for public demonstration of the proposed timber harvest computer model. Demonstrations were conducted in Roseburg and Portland in September 1987. Fourteen people attended the Roseburg demonstration of the proposed TRIM-PLUS Allowable Harvest Model. The session included a comparative look and discussion of other harvest models with TRIM-PLUS and a demonstration of how the model works.

In January 1988 a mailer was distributed to inform the public of the upcoming availability of the State Director Guidance Document. Interested publics were asked to return a request to receive a copy of the document.

A draft State Director Guidance Document was mailed to all those who requested copies in May 1988. Additional copies were made available through all district offices, and open houses were held in each district and the state office. The Roseburg District held an open house attended by 22 people on June 9, 1988 to discuss the State Director Guidance Document. A comment period followed, with approximately 70 written responses sent to the state director by the end of August 1988. Proposed revisions to some elements of that guidance and responses to public comments were shared with the original respondents for further comment in several letters during 1989 and 1990.

# Appendix 3

# Guidance for Formulation of Alternatives

## ıtroduction

e purpose of alternatives is to identify a range of reason-
e combinations of resource uses and management
ıctices that respond to planning issues and provide
ınagement direction for all resources. Five common
ernatives will be addressed in each RMP, to provide a
nsistent set of distinct choices among potential manage-
ent strategies.

no change from the existing land use plan alternative will
so be addressed. This is the "no action" alternative. In
e other alternatives all existing land use decisions not
und valid for continued implementation after 1990
rough an analysis summarized in the Analysis of the
anagement Situation), will be reconsidered.

ommon alternatives that identify specific management
tions along District boundaries will be consistent. Ex-
mples include elk management areas, spotted owl
rridors or visual corridors.

his Guidance for Formulation of Alternatives may be
odified later based on information identified in the dis-
cts' analyses of the management situation, or refine-
ents that flow from the districts' site-specific development
common alternatives.

## Goals and Objectives of the Common Alternatives

he purpose of the goal and objective statements for the
ve common alternatives (A through E) is to guide develop-
ent of specific criteria. Each alternative, if implemented,
s intended to achieve or meet its goal. Goal and objective
tatements focus on general direction of alternatives rather
han technical points in issue-related criteria for the alterna-
ives. In each alternative all resource management values
would be accommodated to the extent consistent with the
primary goals and objectives for that alternative.

## Specific Guidance on Common Alternatives

The common alternatives would differ primarily in the way they allocate primary uses of lands (for example, lands allocated to intensive forest management, and lands allocated to protection of riparian zones).

The discussion on pages 50 through 60 describes criteria for addressing each of the eleven planning issues in the formulation of the common alternatives. It also describes how land use allocations and management actions would vary in response to each issue. Within the specific constraints provided by the guidance for addressing each issue, the districts have flexibility to formulate the common alternatives as they consider appropriate to meet the goals and objectives of each alternative.

| | Alternative A | Alternative B |
|---|---|---|
| **GOALS:** | Emphasize high production of timber and other economically important values on all lands to contribute to community stability. | Emphasize timber production to contribute to community stability consistent with the variety of other land uses such as fish and wildlife habitat, recreation, and scenic resources on O&C and CBWR lands. Give equal consideration to all resource values on public domain lands. |
| **OBJECTIVES:** | • Produce the highest sustained yield of timber on all suitable forest lands legally available for harvest.<br>• Contribute to ecological functions important to timber productivity and to habitat diversity to the extent possible consistent with the allocation for timber production.<br>• Manage threatened and endangered species habitat as legally required.<br>• Provide Research Natural Areas and eligible Areas of Critical Environmental Concern to the extent consistent with the allocation for timber production.<br>• Manage appropriate Congressionally designated areas to maintain and enhance their scenic values.<br>• Meet legal requirements for protection of wetlands and water quality, to protect anadromous fish habitat and other relevant values.<br>• Emphasize substantial developed and dispersed motorized recreation uses.<br>• Find no additional rivers suitable for designation under the Wild and Scenic Rivers Act.<br>• Make land tenure adjustments which enhance BLM long-term sustained yield timber harvest opportunities.<br>• Provide no special management in rural (residential) interface areas. | • Produce a high sustained yield of timber on O&C and CBWR lands, and on public domain lands where nontimber uses and values are of lesser importance than timber production.<br>• Contribute to ecological functions important to timber productivity and to habitat diversity using a system that maintains old growth and mature forest in large and small blocks.<br>• Protect habitat of all threatened and endangered species and species with high potential for listing. Protect habitat of other species of substantial concern to the extent consistent with high timber production.<br>• Retain existing Research Natural Areas (RNAs) and Areas of Critical Environmental Concern (ACECs). Provide new ones from eligible areas to the extent consistent with the emphasis on timber production.<br>• Manage scenic resources in selected areas of high recreation use.<br>• Meet legal requirements for protection of wetlands and water quality and provide moderate additional protection for anadromous fish habitat, other substantial streams, and other water.<br>• Provide for a wide range of developed and dispersed motorized recreation uses and opportunities, to minimize conflicts among recreation user groups.<br>• Find eligible river segments suitable for designation as recreational, if they are important and manageable, and designation would not cause adverse economic impact.<br>• Make land tenure adjustments which enhance BLM long-term sustained yield timber harvest opportunities on O&C and CBWR lands, and which benefit a variety of uses and values on public domain lands.<br>• Adopt appropriate special forest management practices on BLM-administered lands intermingled with or adjacent to rural interface areas zoned for most dense residential occupancy. |

| Alternative C | Alternative D | Alternative E |
|---|---|---|
| Provide timber production to contribute to community stability consistent with maintenance of biological diversity and the variety of other uses such as fish and wildlife habitat, recreation, and scenic resources on all lands. | Emphasize protection and reestablishment of spotted owl habitat, along with management and enhancement of other values such as dispersed nonmotorized recreation opportunities and scenic resources, while sustaining some timber production. | Emphasize protection of older forests and management and enhancement of values such as dispersed nonmotorized recreation opportunities and scenic resources. |
| • Produce a moderate sustained yield of timber.<br>• Provide biological diversity using a system that maintains some old growth and mature forest, focusing on protection of areas where special status plant and animal species cluster.<br>• Protect habitat of all threatened and endangered species and species with high potential for listing. Protect habitat of other species of substantial concern through emphasis on biological diversity and to the extent consistent with moderate timber production.<br>• Retain existing RNAs and ACECs. Provide new ones from eligible areas except where lands managed by others are considered to provide more appropriate opportunities.<br>• Manage scenic resources in selected high use areas, particularly emphasizing protection in corridors of existing and proposed wild and scenic rivers and major trails.<br>• Provide substantial protection for anadromous fish habitat, other substantial streams and other water environments.<br>• Provide for a wide range of recreation opportunities emphasizing dispersed use, while reducing conflicts among recreational user groups.<br>• Find eligible river segments suitable for designation as scenic or recreational, if they are important and manageable, and designation would not cause adverse economic impact.<br>• Make land tenure adjustments to benefit a variety of uses and values.<br>• Adopt appropriate special forest management practices in rural interface areas zoned for moderate or high density residential occupancy. | • Produce a sustained yield of timber consistent with allocations for other uses and values.<br>• Protect habitat of the spotted owl in accordance with the Owl Conservation Strategy.<br>• Protect habitat of all threatened and endangered species, species with high potential for listing, and species of related concern.<br>• Retain all existing RNAs and ACECs. Provide new ones from eligible areas except where lands managed by others are considered to provide more appropriate opportunities.<br>• Manage all identified scenic resources.<br>• Provide substantial protection for wetlands and riparian areas along most streams and other water.<br>• Emphasize dispersed nonmotorized recreation opportunities.<br>• Find eligible river segments suitable for designation as wild, scenic or recreational, if they are important and manageable.<br>• Make land tenure adjustments which would emphasize enhancement of nontimber uses and values.<br>• Adopt special timber harvest and forest management practices in rural interface areas zoned for moderate or high density residential occupancy. | • Produce a sustained yield of timber consistent with allocations for other uses and values.<br>• Protect all old growth and older mature forests.<br>• Protect habitat of all threatened and endangered species, species with high potential for listing and species of related concern.<br>• Retain all existing RNAs and ACECs and designate all eligible areas.<br>• Manage all identified scenic resources and provide some visual resource protection for all lands.<br>• Manage all riparian areas and wetlands to maintain and improve water quality and fisheries habitat, and contribute to wildlife habitat diversity.<br>• Emphasize dispersed nonmotorized outdoor recreation opportunities.<br>• Find all eligible river segments suitable for designation as wild, scenic or recreational rivers.<br>• Make land tenure adjustments which would emphasize enhancement of nontimber uses and values.<br>• Adopt special timber harvest and forest management practices extensively buffering rural interface areas zoned for moderate or high density residential occupancy and other rural interface areas as appropriate. |

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue No. 1: Timber Production Practices:** Which forest lands should be available for timber management, and what practices should be used on those lands? | Guidance for All Common Alternatives: Lands allocated to intensive forest management under any of these alternatives would normally provide the highest nondeclining harvest level (even flow) of timber when the following conditions prevail:<br>• Effective silvicultural techniques (such as clear cutting, shelterwood or partial cutting) appropriate to the land allocations are used.<br>• All feasible site preparation and intensive management practices are applied.<br>• Anticipated merchantability is the only constraint on minimum average stand diameter slated for future harvest. (In some areas this may result in harvest of timber stands as young as 40 years for several decades during the early to middle part of the next century under some alternatives.)<br>• Adequate budgets are available to support the resultant timber sale program and allied intensive management practices, as well as scheduled monitoring linked to those activities.<br><br>The common alternatives assume these practices and conditions on the lands allocated to intensive timber management, but incorporate less intensive management practices on other available forest lands to the extent needed to be consistent with the allocation of those lands.<br><br>Where consistent with the goals and objectives of each alternative, the following silvicultural and harvest practices would be implemented on lands allocated primarily to timber management, to meet multiple land use objectives:<br><br>Minimize regeneration delay by reforesting harvested sites as soon as practical. Calculate an empirical regeneration period based on representative stocking survey results, expected timber sale contract lengths and management objectives.<br><br>Reforest harvested lands with indigenous commercial tree species. Emphasis would be placed on utilization of genetically improved stock in accordance with the Western Oregon Tree Improvement plan.<br><br>Manage tree seed orchards to produce adequate supplies of genetically improved seed.<br><br>Use available site preparation and seedling protection practices, including herbicides, using an integrated vegetation management approach. Emphasize those techniques that have proved most effective in assuring seedling survival and growth. (Actual practices will be based on site-specific analysis following completion of the RMP.)<br><br>Convert to conifers those lands classified as commercial forest lands presently occupied by grass, hardwoods and brush. | Allocate all forest lands for timber production consistent with the management direction for other resources (Issue Nos. 2 and 3, etc.) in this alternative, except the following:<br><br>Nonsuitable Woodland (See Figure 3-1 for Chart showing TPCC categories.) |

| Alternative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|
| Allocate all forest lands for timber production consistent with the management direction for other resources in this alternative, except the following:<br><br>Nonsuitable Woodland<br>Suitable Woodland - Low Site | Allocate all forest lands for timber production consistent with the management direction for other resources, except the following:<br><br>Nonsuitable Woodland<br>Suitable Woodland - Low Site<br>Suitable Woodland - Nonsuitable Commercial Forest Land | Allocate all forest lands for timber production consistent with the management direction for other resources, except the following:<br><br>Nonsuitable Woodland<br>Suitable Woodland - All Categories | Allocate all forest lands for timber production consistent with the management direction for other resources, except the following:<br><br>Nonsuitable Woodland<br>Suitable Woodland - All Categories<br>The Fragile Gradient-Restricted component of the Fragile Suitable TPCC category<br>Site Class V |

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue No. 1 (Continued)** | Plan hardwood sites for management of a sustained yield of hardwoods, where consistent with allocations for other uses or values.<br><br>Implement commercial thinning of present and future stands where practicable and where research indicates increased gains in timber production are likely.<br><br>Practice initial spacing control of seedlings/ saplings through planting or thinning in conjunction with the control of competing vegetation, to maximize wood production by concentrating site resources in individual tree growth.<br><br>Plan nitrogen fertilization applications for all present and future stands where research indicates increased wood yields would result.<br><br>Plant specific root disease centers with resistant tree species.<br><br>Consider uneven-age management in stands where this method would be economically feasible and would maintain environmental values.<br><br>Consider efficiency of field operations and assurance of prompt reforestation in selecting the size of timber harvest units.<br><br>Apply proper soil management measures to maintain soil productivity. | |
| **Issue Nos. 2 and 3: Old-Growth Forests and Habitat Diversity**<br><br>To what extent and where should old-growth and/or mature forest habitats be retained, maintained or reestablished to meet various resource objectives? To what extent and where should BLM manage habitat to support populations of native wildlife species? | Any wildlife habitat management practice (such as nest boxes, road closures and forage seeding) not listed in the following could be implemented under any of the alternatives, as long as it is compatible with other management objectives. All special habitat features would be managed to protect their values. Mature and old-growth forests would be retained where Congressional designation of areas requires it. Snags and/or wildlife trees (to be converted to snags) would be retained where they occur on lands not allocated to timber harvest, except where public safety is a concern, and if left standing as nonmerchantable material on available forest lands. Where it would contribute to meeting wildlife tree objectives, create snags in areas not allocated primarily to timber production. A habitat goal of timber sale contracts would be to leave all snags and nonmerchantable trees that can be left consistent with safety considerations. | Mature and old-growth forests would be retained on most lands excluded from planned timber harvest by inclusion in the following allocations and TPCC categories:<br><br>Nonsuitable Woodland<br>Riparian Management Areas<br>Existing high-use recreation sites<br>T&E species recovery areas where timber harvest is prohibited<br>Wilderness Areas |

| ernative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|

ntribute to habitat diversity using system that protects mature and d-growth forest in large and small ocks. Mature and old-growth mponents of the forest would be stributed in a corridor system by ed zone and elevation. In the rridor system large blocks of pproximately 640 acres would be nnected by a series of small, epping stone blocks of approxi-ately 80 acres, spaced at about ne-mile intervals. Blocks would e limited to defined corridor areas.

ublic Domain lands and the llowing allocations and TPCC ategories on O&C and CBWR ould receive priority for placement to the system, to the extent that ey fit; for instance, if they provide eeded habitat and are suitably cated to contribute to the system.

Nonsuitable Woodland
Suitable Woodland - Low Site
Riparian Management Areas
Recreation Sites
T&E species recovery areas where timber harvest is prohibited
Special Areas (Natural Areas, ACECs)
Wilderness Areas

This alternative would provide for intensive management of wildlife habitat and maintenance of biological diversity. It would strive to attain a balance of forest seral stages and associated plant and animal communities. Varying sized blocks of mature and old-growth forests would be spatially distributed over BLM-administered land, focusing on protection of identified areas where special status plants and animal species cluster. Where clustering is not apparent, alternative design would focus on seral stage balance and spatial distribution. The old-growth stands and other stands intended to attain old-growth status would be excluded from timber harvest except where other management is appropriate to benefit the special status species.

Public Domain lands and the following allocations and TPCC categories on O&C and CBWR would receive priority for placement into the system, to the extent that they are suitably located:

Nonsuitable Woodland
Suitable Woodland - Low Site
Suitable Woodland - Nonsuitable
Commercial Forest Land

This alternative would manage habitats on BLM-administered lands to provide for a number and distribution of spotted owls that ensures continued existence of a well distributed population on those lands, so they may interact with spotted owls throughout the geographic range of the species, as recommended by the Conservation Strategy for the Northern Spotted Owl.

Suitable wildlife trees would be retained to contribute to the maintenance of cavity-dweller populations on BLM-administered lands at 60 percent of the optimum population level. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of green culls, snags and down logs. All special habitat features would be appropriately buffered.

This alternative would preserve the following:

- all existing forest stands over 150 years old.
- additional lands proximate to the above stands, to assist in maintaining natural ecological elements, protect the older stands from edge effect and natural disaster, and interconnect them into a sustainable network.
- within two miles of each spotted owl nest or habitat core occupied by a pair of owls in the last three years, at least the acreage (where available) of suitable habitat considered to provide a high probability of continued occupancy by a pair of owls.

In addition to retention of wildlife trees on lands not allocated to timber management, suitable wildlife trees would be retained to contribute to the maintenance of cavity-nester populations at 60 percent of the maximum potential population level on lands allocated

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue Nos. 2 and 3 (Continued)** | | |
| **Issue No. 4: Threatened and Endangered (and Other Special Status) Species Habitat**<br><br>What should BLM do to manage Federally listed threatened or endangered plants and animals and to prevent future Federal listing of plants and animals as threatened or endangered species? | Protect, monitor and manage habitats of Federal listed and proposed species in accordance with the Endangered Species Act and recovery plans, as legally required for self-sustaining survival. | Timber production constraints would be assumed in the formulation of the alternative only if critical habitat has been designated or there is a recovery or conservation plan within a month after completion of the Analysis of the Management Situation. Manage for the conservation of, and mitigate actions to protect habitats of, Federal Candidate, State Listed and Bureau Sensitive species where such actions would not diminish commercial use such as timber production. |
| **Issue No. 5: Special Areas**<br><br>What areas on BLM-administered lands need special management to prevent irreparable damage to important historic, cultural or scenic values; to protect botanical or fish and wildlife resources or other natural systems or processes; and to protect life and safety from natural hazards? Which of these areas should be formally designated as Areas of Critical Environmental Concern (ACEC)? | Any areas considered appropriate for Research Natural Area (RNA) designation would also be considered appropriate for ACEC designation. | Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities (e.g., Wild River designation, the Endangered Species Act). Existing ACECs and potential ACECs that meet the preceding standard, including RNAs and proposed RNAs, would be retained or designated on nonforest lands or nonsuitable woodlands of no substantial mineral potential. Other existing ACECs and RNAs would be revoked. |

| Alternative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|
| Suitable wildlife trees and/or snags would be retained to contribute to the maintenance of cavity-dweller populations on BLM administered lands at 40 percent of the optimum population level. Wildlife tree management practices would be used on the available forest lands, including retention of green culls and snags. | Riparian Management Areas<br>Recreation Sites<br>T&E species recovery areas where timber harvest is prohibited<br>Special Areas (Natural Areas, ACECs)<br>Wilderness Areas<br><br>Also incorporated would be a system of experimental habitat management areas (HMAs) established at strategic locations on BLM-administered lands, selected from proposed Category I and 2 HCAs in the scientific committee's Spotted Owl Conservation Strategy and other key spotted owl habitats. A habitat management plan prepared for each HMA would specify strategies for intensively managing the habitat for the long term existence of the spotted owl, including transplanting owls from one area to another, silvicultural practices to enhance habitat for owls and other appropriate measures.<br><br>Suitable wildlife trees would be retained to contribute to the maintenance of cavity-dweller populations on BLM administered lands at 60 percent of the optimum population level. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of green culls, snags and down logs. All special habitat features would be appropriately buffered. | | to timber management. Wildlife tree and down log management practices would be used on the available forest lands, including but not limited to retention of green culls, snags and down logs. All special habitats would be appropriately buffered. |
| Same as Alternative A, except protect habitats of Federal Candidate, State Listed and Bureau Sensitive Species to the full extent on public domain land, and protect habitats of Federal Candidate (i.e., Category 1 and 2) species known only to occur on BLM-administered lands to the extent considered necessary to prevent their federal listing. | Same as Alternative B except for additional protection of special status species provided by criteria for Issues 2 and 3. | Manage all BLM-administered lands to support the conservation and protection of all Federal Candidate, State Listed, and Bureau Sensitive species and their habitats. | Same as Alternative D. |
| Retain all existing ACECs and RNAs. Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities. Do not allocate new RNAs on available O&C or CBWR land if a similar feature can be protected on a National Forest. Designate all potential ACECs (including RNAs) on Public Domain lands, nonforest lands, nonsuitable woodlands, and other lands allocated to nontimber uses. | Retain all existing ACECs and RNAs. Designate potential ACECs that meet criteria only if the relevant values are not protected by other authorities. | Retain all existing and designate all potential ACECs. | Same as Alternative D. |

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue No. 6: Visual Resources**<br><br>Which, if any, areas of BLM lands should be managed to reduce visual impacts or enhance visual (scenic) quality? | Note: Guidance for Issue 11 (Rural Interface Area Management) also addresses and defines visual resource management for Alternatives B, C, D and E in rural interface areas, except where this Issue 6 guidance sets a higher standard of visual resource management. Guidance for Issue 9A (Wild and Scenic Rivers) establishes criteria that will substantially dictate visual resource management by alternative in proposed wild and scenic river corridors. See Issue 9A and Issue 11 guidance for details. | Provide VRM Class I management within existing boundaries designated by Congress for exclusive management. Manage all other available (for timber harvest) forest land under VRM Class IV management objectives. Manage other lands as inventoried. |
| **Issue Nos. 7 and 8: Stream/Riparian/Water Quality**<br><br>Where and how should riparian zones be managed to protect and improve water quality, fisheries and wildlife habitat? What actions should be undertaken to comply with state water quality standards? What should BLM do to manage for special needs such as municipal and domestic use? | Guidance for All Common Alternatives:<br>Establish Riparian Management Areas (RMAs) on perennial streams (generally, 3rd order and larger streams), lakes, ponds and other waters, to meet Oregon Forest Practices Act requirements and Oregon water quality standards. Typical average widths of RMAs by alternative are displayed in Table 1. Within those RMAs no lands would be considered "available" (to offer timber for sale as part of the allowable sale quantity). Some timber harvest may occur, however, to achieve resource management objectives. These activities may include road construction and yarding corridors across streams and riparian zones to facilitate timber harvest outside the RMA.<br><br>Logging, road building and site preparation methods would be designed to minimize the number and/or size of mass soil movements and to maintain the integrity of the RMAs. Other activities such as mining, recreation and ORV use would be regulated to protect water quality. Stream and riparian habitat improvement measures may be taken on any streams to improve water quality, fish habitat and/or wildlife habitat. Activities would be designed to meet Oregon Forest Practices Act (OFPA) requirements and Oregon water quality standards.<br><br>Comply with written agreements with public water systems serving municipalities. | |
| **Issue No. 9: Recreation Resources**<br><br>What areas or sites should be designed and/or managed to protect or enhance a variety of recreational opportunities? | Manage for dispersed recreation activities consistent with managed forest settings, including hunting, fishing, sightseeing, riding/hiking, and rafting. Maintain and manage existing recreation facilities which make available significant dispersed recreation opportunities, including recreation sites, boat ramps, trails, interpretive signs and related improvements. Manage existing Special Recreation Management Areas (SRMAs) and delineate Extensive Recreation Management Areas (ERMAs). | Manage existing high-use recreation sites and trails and expand them where needed. Close low use recreation sites and trails. Designate lands open to off-road vehicles (ORV) and lea roads open to motorized use, except where su designation would conflict with other allocatio |

| Alternative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|
| Provide VRM Class I management within existing boundaries designated by Congress for exclusive management. Manage as inventoried all available forest land adjacent to (within a quarter mile) developed recreation sites, state and federal highways, state scenic waterways, and rivers designated under the federal Wild and Scenic Rivers Act. Manage all other available forest land under VRM Class IV management objectives. Manage other lands as inventoried. | Same as Alternative B, except on available forest land where federal land ownership makes up more than half of a viewshed, manage lands as inventoried. | Manage all lands as inventoried. | Same as Alternative D, except manage as VRM Class III all BLM-administered lands inventoried as Class IV; and manage as VRM Class I BLM-administered lands adjacent to (within a quarter mile) developed recreation sites, state and federal highways, state scenic waterways and rivers designated under the federal Wild and Scenic Rivers act. |

**Table 3-1. Riparian Management Areas**

| Stream Order | Average RMA Width* (each side of the stream in feet) | | | | |
|---|---|---|---|---|---|
| | ALT. A | ALT. B | ALT. C | ALT. D | ALT. E |
| 1 | | | | | 50 |
| 2 | | | | 60 | 60 |
| 3 | 75 | 75 | 105 | 140 | 140 |
| 4 | 75 | 100 | 150 | 200 | 200 |
| 5 | 75 | 140 | 210 | 280 | 280 |
| 6 | 75 | 160 | 240 | 320 | 320 |
| Lakes, Ponds & Other Waters | 75 | 100 | 150 | 200 | 200 |

* Actual RMA widths would be determined by on-the-ground riparian vegetation, terrain and stream characteristics, but would be a minimum of 50 feet on all 3rd order and larger streams. First and second order streams would have RMAs designated if perennial or if the beneficial uses warrant.

| | | | |
|---|---|---|---|
| Same as Alternative A, except support the State's Regional Economic Development Plan for the geographic area, retain options for new SRMAs and high value potential recreation sites and trails on Public Domain lands, maintain and/or improve all existing developed recreation sites, and consider reopening sites closed in recent years. | Allocate and manage new SRMAs. Continue management of all existing recreation sites and trails, and consider reopening sites closed in recent years. Emphasize wildlife viewing, interpretation and related old-growth forest recreation opportunities, both to attract nonlocal visitors and to serve local users. Retain options for future development of high value potential sites, trails and sightseeing opportunities. Impose additional ORV limitations or road closures to protect wildlife habitat or old-growth forest recreation opportunities, minimize conflicts with hikers and horseback riders, or meet other resource objectives. | Same as Alternative C, except manage for an optimum range of nonmotorized recreation. Retain options for future development of recreation sites and facilities for dispersed recreation opportunities. Retain existing pockets of old-growth forest that are both adjacent to and accessible from existing or potential recreation areas. Prohibit ORV and road use as appropriate to improve wildlife habitat or protect the ecosystem. | Same as Alternative D. |

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue No. 9A: Wild and Scenic Rivers**<br><br>What, if any, rivers should be found suitable for designation? | Provide interim protection for all river segments determined to be suitable, until Congressional action on BLM plan recommendations. Interim protection should be appropriate to the highest category for which the river is determined to be suitable. Manage Congressionally designated rivers consistent with their designation. | No rivers found suitable for designation under any classification. |
| **Issue No. 10: Land Tenure**<br><br>In what areas would BLM-administered lands be sold, exchanged or transferred out of federal ownership under other authorities to improve management efficiency and benefit resource program objectives? In what areas would BLM attempt to acquire lands to improve management efficiency and benefit resource program objectives? | A major lands program effort would use exchanges to consolidate land ownership patterns to benefit one or more of the resources managed, such as timber, watershed, wildlife habitat, recreation, cultural, botanical, and minerals.<br><br>Land tenure adjustment would be guided by a three-zone concept utilizing the following standards:<br><br>Zone 1 includes areas currently identified as having high public resource values, and other efficiently managed lands. The natural resource values may require protection by federal law, Executive Order or policy. These lands may have other values or natural systems which merit long term public ownership. They do not meet the criteria for sale under FLPMA Section 203(a) and would generally be retained in public ownership. The Zone 1 boundaries should be relatively close to or on BLM property lines except where the intent is to show preferred acquisition areas.<br><br>Zone 2 includes lands that are suitable for exchange because they form discontinuous ownership patterns, are less efficient to manage than Zone 1 lands, and may not be accessible to the general public. Where appropriate opportunities are identified, these BLM-administered lands may be exchanged for other lands in Zones 1 or 2, transferred to other public agencies, or given some form of cooperative management. These lands would not be expected to meet the criteria for sale under Section 203(a), and would not be identified as suitable for such sale.<br><br>Zone 3 includes lands that are scattered and isolated with no known unique natural resource values. Zone 3 lands are available for use in exchanges for private inholdings in Zone 1 (high priority) or Zone 2 (moderate priority). They are also potentially suitable for disposal through sale | Exchanges would be made to acquire lands which would enhance the nondeclining harvest level of the commercial forest land managed by BLM, by improving age class distribution or other harvest level determination factors. Factors to consider include site quality, access to public forest land, logical logging units, and management of public forest land to facilitate timber harvest. No exchanges would be made to acquire lands more valuable for nontimber uses. No commercial timberland would be sold or leased. Leases or conveyance of land in Zones 2 and 3 other than commercial timberland would be made under the Recreation and Public Purposes Act to provide appropriate facilities or services. |

| Alternative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|
| No rivers found suitable for designation as wild or scenic. River segments eligible for wild, scenic or recreational classification found suitable for designation as recreational, if all of the following circumstances exist:<br>- no net adverse economic impacts on the local economy.<br>- river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be the top river in the State Comprehensive Outdoor Recreation Plan (SCORP) region.<br>- BLM can effectively manage the outstanding values of the river segment. | River segments eligible for scenic or recreational river status found suitable for designation consistent with their highest potential classification, and river segments eligible for wild classification found suitable for designation as scenic, if all of the following circumstances exist. If only the economic impact test is not met, find suitable for designation as recreational.<br>- no net adverse impacts on the local economy.<br>- river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be among the top two rivers in the SCORP region.<br>- BLM can effectively manage the outstanding values of the river segment. | Eligible river segments found suitable for designation consistent with their highest potential classification if the following circumstances exist.<br>- river segment possesses at least one outstandingly remarkable value for which it is considered by BLM to be among the top four rivers in the SCORP region.<br>- BLM can effectively manage the outstanding values of the river segment. | All eligible river segments found suitable for designation consistent with their highest potential classification. |
| Exchanges of O&C and CBWR lands would be made primarily to acquire lands which would enhance timber management opportunities. Exchanges of public domain lands would be made to benefit one or more of the resources managed, including nontimber values. Sale of O&C and CBWR lands other than available commercial forest lands, and of public domain lands, would be made to dispose of lands that meet any of the criteria of FLPMA Section 203(a). Leases on such lands would be made to accommodate other uses. Leases or conveyances under the Recreation and Public Purposes Act would be made in Zones 2 and 3 to provide appropriate facilities or services. | Same as Alternative B, except emphasis would also be given to exchanges of O&C and CBWR lands that would contribute to conservation of biological diversity. | Land exchanges would be made to benefit one or more of the resources managed. Exchanges involving disposal of timber to acquire lands containing greater nontimber values would be emphasized. Sales of lands other than available commercial forest lands would be made to dispose of lands that meet criteria (1) or (2) of FLPMA Section 203(a), but sales of land that meet only criterion (3) would not be made. No lands would be leased, except leases and conveyances under the Recreation and Public Purposes Act would be made in Zones 2 and 3 to provide facilities or services for the benefit of the public. | Same as Alternative D. |

| | All Common Alternatives | Alternative A |
|---|---|---|
| **Issue No 10. (Continued).** | under FLPMA Section 203(a) if important recreation, wildlife, watershed, threatened or endangered species habitat, and/or cultural values are not identified during disposal clearance reviews and no viable exchange proposals for them can be identified. The discussion of Zone 3 lands must state which of the disposal criteria in FLPMA, Section 203(a), apply. Zone 3 lands would also be available for transfer to another agency or to local governments, as needed to accommodate community expansion and other public purposes. | |
| **Issue No. 11: Rural Interface Area Management**<br><br>Which BLM-administered lands should be allocated to receive special management practices due to the concerns of residents who live in close proximity? (Rural interface areas are areas where BLM-administered lands are adjacent to or intermingled with privately owned lands where county zoning has created or allows for creation of lots as small as 1 to 20 acres. In most rural interface areas concerns of the residents are related to forest management practices, visual quality and potential affects on domestic water sources and water supplies.) | | No special management actions except those that address other issues. |

# Sensitivity Analyses

Sensitivity analysis is a process of examining specific trade-offs which would result from making changes in single sensitive elements of an alternative. Such analyses will be particularly helpful in developing the preferred alternative, to make it most effective in reconciling potential conflicts and optimizing overall benefits. The sensitivity analyses will have the further benefit of informing the public about certain trade-offs, which should facilitate their offering information preferences in their comments on the Draft RMP/EIS.

# Sensitivity Analyses of Land Use Allocations

Some specific land-use allocations and other decision elements will be subjected to sensitivity analysis at the same time as preliminary analysis of impacts of the initial array of plan alternatives and prior to selection of a preferred alternative. This analysis will identify approximate opportunity costs associated with differing approaches to the most sensitive land use allocations and decision elements.

Because of the number of land use allocation issues and alternatives, sensitivity analysis must be tightly focused to be manageable. The analysis, therefore, will focus on mid-range alternatives. At a minimum, the following will be analyzed for Alternatives B, C and D and the preferred alternative:

- Effects on timber harvest (ASQ) and related jobs and county revenues, and on cavity dwellers, of substituting the next higher and next lower alternative levels of snag

| Alternative B | Alternative C | Alternative D | Alternative E |
|---|---|---|---|
| On BLM-administered lands within one quarter mile of private lands in identified rural interface areas zoned for 1 to 5-acre lots, customary forest management practices would be altered, where realistically feasible, to mitigate the adjacent neighbors' concerns (i.e., management would look for alternative methods of practicing intensive forest management). Examples of management options include harvest regimes other than clearcutting, hand application rather than aerial application of herbicides and pesticides, inclusion of additional buffers for domestic water sources, and hand piling slash for burning as opposed to broadcast burning. All BLM-administered lands within a quarter mile of designated rural interface areas 1 to 5-acre lots) would be managed for VRM class III objectives. | Same as Alternative B except that lands zoned for 1 to 20-acre lots would also be included as the rural interface area. | On BLM-administered lands within one quarter mile of private lands in rural interface areas zoned for 1 to 20-acre lots, there would be no herbicide spraying, no clear cutting, and no prescribed burning. BLM-administered lands within this area would be managed for VRM class II objectives. | Same as Alternative D except BLM-administered lands within one half mile of private lands in rural interface areas would be managed as discussed in Alternative D. Areas zoned for lots larger than 20 acres, but with tax lots of 20 acres or less and/or existing legal multiple residences, may also be addressed in this alternative. |

and wildlife tree protection, and of providing for no specific protection of cavity nesters on suitable forest or woodland.

- Effects on ASQ and related jobs and county revenues, and on other relevant values, of substituting the next higher and the next lower alternative levels of riparian zone protection, and of providing only legally required protection of riparian zones to preserve commercial trees on suitable forest or woodland.

- Effects on ASQ and related jobs and county revenues, and on spotted owl populations (number of pairs), of substituting the next higher and the next lower alternative levels of old growth and mature forest protection, and of providing no specific old growth and mature forest protection on suitable forest or woodland.

The following additional sensitivity analyses will also be made:

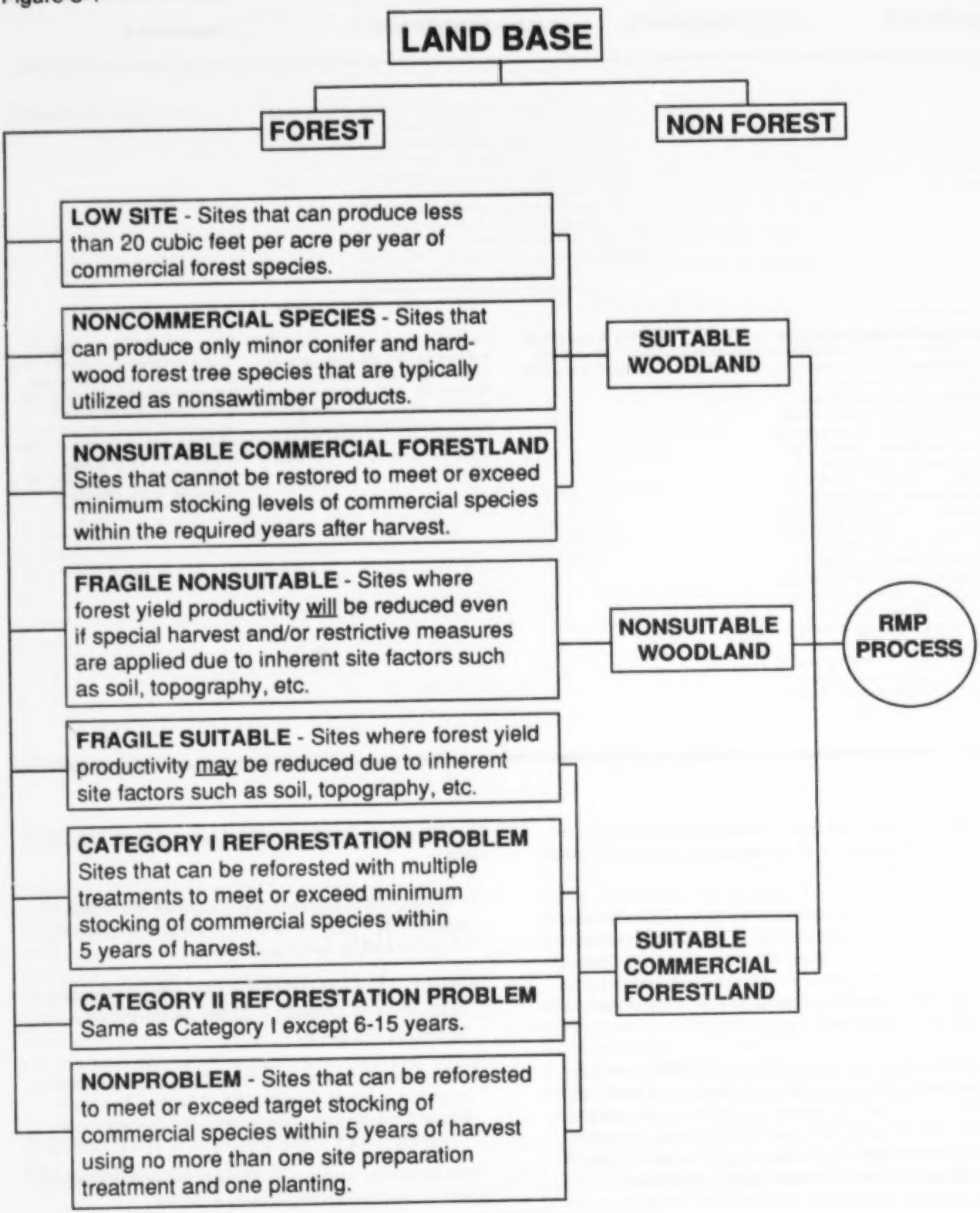
- Analysis of Alternatives C and D to show the effects of substituting extended rotation of old growth forest in lieu of no harvest for those alternatives.

- Analysis of Alternative B to show the effects of placing all lands allocated primarily to timber production on a rotation of 150 years.

- Analysis of Alternative B to show the effects of partial retention of structural elements of habitat diversity in timber harvest units under even-aged management.

Other sensitivity analysis elements or increments may be added as deemed appropriate by a district.

Figure 3-1


LAND BASE
FOREST
NON FOREST
LOW SITE - Sites that can produce less than 20 cubic feet per acre per year of commercial forest species.
NONCOMMERCIAL SPECIES - Sites that can produce only minor conifer and hard-wood forest tree species that are typically utilized as nonsawtimber products.
NONSUITABLE COMMERCIAL FORESTLAND Sites that cannot be restored to meet or exceed minimum stocking levels of commercial species within the required years after harvest.
SUITABLE WOODLAND
FRAGILE NONSUITABLE - Sites where forest yield productivity will be reduced even if special harvest and/or restrictive measures are applied due to inherent site factors such as soil, topography, etc.
NONSUITABLE WOODLAND
RMP PROCESS
FRAGILE SUITABLE - Sites where forest yield productivity may be reduced due to inherent site factors such as soil, topography, etc.
CATEGORY I REFORESTATION PROBLEM Sites that can be reforested with multiple treatments to meet or exceed minimum stocking of commercial species within 5 years of harvest.
CATEGORY II REFORESTATION PROBLEM Same as Category I except 6-15 years.
NONPROBLEM - Sites that can be reforested to meet or exceed target stocking of commercial species within 5 years of harvest using no more than one site preparation treatment and one planting.
SUITABLE COMMERCIAL FORESTLAND

Estimated effects on ASQ, together with resulting local employment and county revenues for each analysis, will be quantified and arrayed as in Table 3-2. Effects on other resource attributes will be quantified only where available analytical techniques are readily applicable. Otherwise, effects will be compared to relevant environmental consequence conclusions for the basic plan alternatives.

## Sensitivity Analysis of Timber Management Prescriptions

For the preferred alternative, the following potential nondeclining timber harvest levels (even flow) or potential allowable sale quantities will be calculated and displayed. Attendant local employment and county revenues will be identified, along with the related long term sustained yield of timber, and any other relevant, identifiable effects.

1. The nondeclining harvest level under the conditions de-

**Table 3-2 Sensitivity Analysis of Land Use Allocations (partial example using common alternatives)**

| Allocation or Decision Element | Base Alternative | Allocation or Element From Alternative | ASQ Change | Local Employment Change | County Revenue Change | Other Effect Changes |
|---|---|---|---|---|---|---|
| Snag and Wildlife Tree Protection | B,C | D<br>No Protection | | | | |
| | D | C<br>E<br>No Protection | | | | |
| Riparian Zone Protection | B | A<br>C | | | | |
| | C | A<br>B<br>D | | | | |
| | D | A<br>C<br>E | | | | |
| Old Growth and Mature Forest Protection | B | C<br>No Protection<br>Partial Retention of Structure | | | | |
| | C | B<br>D<br>No Protection<br>Partial Retention of Structure<br>Extended Rotation | | | | |
| | D | C<br>E<br>No Protection<br>Extended Rotation | | | | |
| Timber Harvest Rotation Length | B | 150 Year Minimum | | | | |

scribed in the first two paragraphs of Guidance for All Common Alternatives for Issue 1.

2. The nondeclining harvest level if no stands younger than culmination of mean annual increment (CMAI) were planned for final harvest, and if all appropriate intensive management practices are applied. The number of years needed to reach CHAI would be determined separately for each selected site class, using appropriate growth and yield data simulation, such as the Stand Projection System Model or Organon. The site indexes to be used would be the same as those calculated from the extensive forest inventory and used in simulating growth and yield.

3. The nondeclining harvest levels if minimum average tree diameter of a stand to be harvested were constrained at 12 inches, at 16 inches, at 20 inches, and at 24 inches. The number of years needed to reach each size would be determined as in 2 above, based on growth and yield data.

4. The nondeclining harvest level if each of the following intensive management practices were not used (A separate calculation for each prospectively foregone practice):
- planting of genetically improved stock
- fertilization
- precommercial thinning
- commercial thinning
- brush and hardwood conversion

5. The nondeclining harvest level if only the base program (site preparation, planting including genetically improved stock, protecting seedlings, and plantation release) were funded; and fertilization, precommercial thinning, commercial thinning and stand conversion were foregone.

6. The nondeclining harvest level if prescribed burning were prohibited or abandoned for other reasons.

7. The nondeclining harvest level if all use of herbicides aid timber production were prohibited, or abandoned fo other reasons.

8. The nondeclining harvest level that would result if 5, and 7 all occurred.

9. The nondeclining harvest level that would result if currently forested commercial forest lands that are expected to be economically infeasible to harvest were removed from the available forest land base. (To be displayed only in plans where the potential harvest lev a sustained yield unit would change by more than 1 MMBF.)

10. The nondeclining harvest level if intensive manage practices considered economically marginal were not

11. The harvest level that would result if a departure c much as 10 percent above the nondeclining harvest l shown in sensitivity analysis 2 were selected, provide any increase does not exceed the long term sustaine capacity. The harvest level in subsequent decades n not fall more than one percent below the nondeclinin harvest level for sensitivity analysis 2. The potential departure would not exceed that needed to match re timber supply levels in the market area, as defined b Local Market Model being developed at the PNW Re search Station, USFS. The period for which departu would be calculated would be the period of anticipat regional timber supply deficiency identified for the m area in recent studies.

These sensitivity analyses will assist BLM in identify proposed set of prescriptions for the preferred alter They will also identify the impacts of possible future adjustments in timber management prescriptions th occur as a result of actions outside BLM's control.

**Table 3-3. Sensitivity Analysis of Timber Management Prescriptions, Preferred Alternative**

| Sensitivity Analysis | ASQ | Local Employment | County Revenue | Other Effects |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |

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